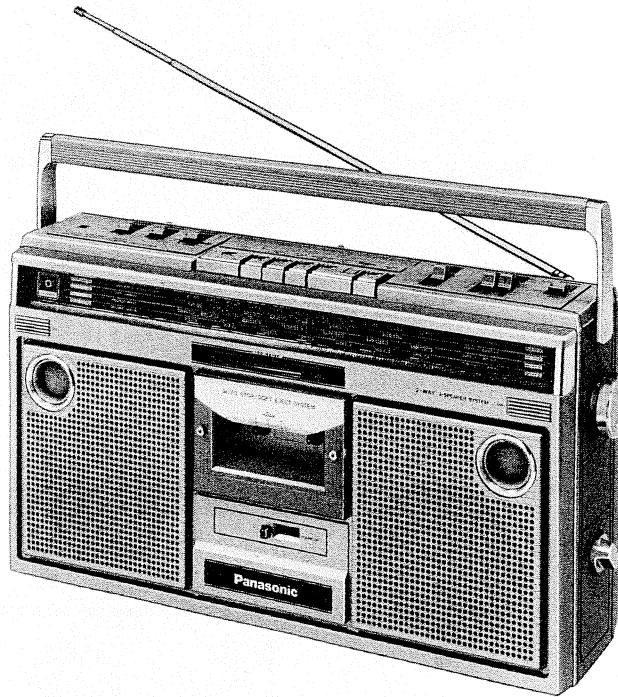


Service Manual

Radio Cassette RX-5120LS

FM/LW/MW/SW Stereo Radio Cassette



RX-1750LS MECHANISM SERIES

■ SPECIFICATIONS

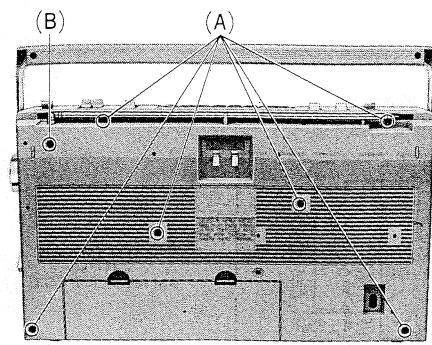
Power Requirement:	AC; 100~110/115~127/200~220/ 230~250 V, 50/60 Hz Power consumption; 27W Battery, 12V (eight-UM-1, D size dry batteries) Car/boat battery; with optional car/ boat adaptor RP-952)	Output:	EXT SP; 3~8Ω HEADPHONES; 8Ω
Power Output:	10W (5W×2).....(DC max.)	REC/PB Connection:	5P DIN type · IN; 0.32mV (2.7 kΩ over) OUT; 0.36V (4.7kΩ under)
Frequency Range:	70~11,000 Hz (with normal tape) 70~13,000 Hz (with CrO ₂ tape) 70~13,000 Hz (with FeCr tape)	Speaker:	Woofer; 12cm (4 ²³ / ₃₂ ") PM Dynamic speaker (3Ω) Tweeter; 3cm (1 ¹ / ₃₂ ") PM Dynamic speaker (200Ω)
Recording System:	AC bias, MAGNET erase	Radio Frequency Range:	FM; 87.5~108 MHz LW; 145~285 kHz (2060~1030 m) MW; 520~1610 MHz (577~116 m) SW; 5.9~18 MHz (50.8~16.7 m)
Tape Speed:	4.8 cm/s, (1 ⁷ / ₈ ips)	Intermediate Frequency:	FM; 10.7 MHz AM; (LW/MW/SW); 455 kHz
Wow and Flutter:	0.35% (RMS)	Sensitivity:	FM; 5μV/50mW output LW; 160μV/m/50mW output MW; 75μV/m/50mW output SW; 6μV/50mW output
Program Time:	1 hour with C-60 cassette tape	Dimensions:	467 mm(W)×261 mm(H)×148 mm(D) [18 ³ / ₈ "(W)×10 ¹ / ₄ "(H)×5 ¹ / ₂ "(D)]
Track System:	4-track stereo recording and playback	Weight:	5.2 kg (11 lb. 7 oz.) without batteries
Input:	MIC; sensitivity 0.32mV/applicable microphone impedance 200~600Ω (recommended microphone RP-8135) DC IN; 13.2V		

Specifications are subject to change without notice.

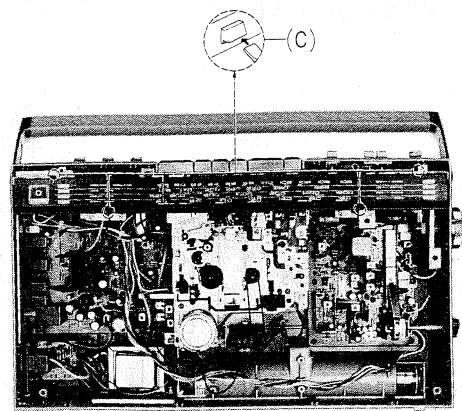
 **Panasonic**

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Csaka Japan

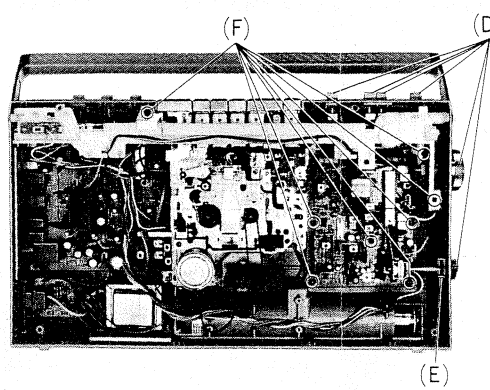
DISASSEMBLY INSTRUCTIONS



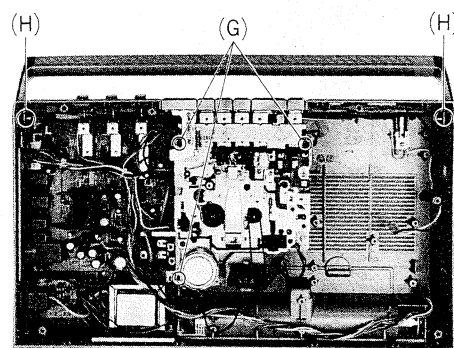
[Fig. 2]



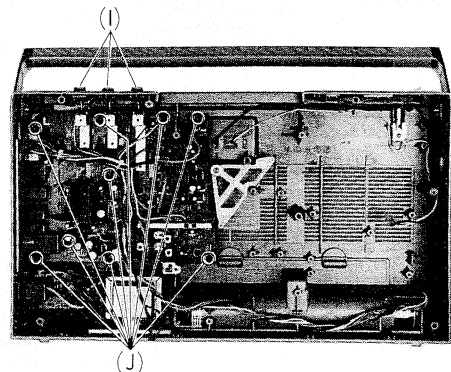
[Fig. 3]



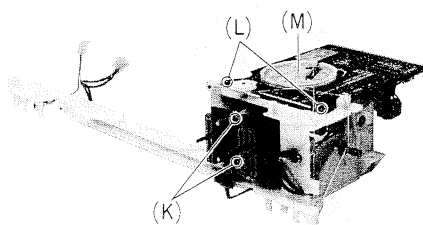
[Fig. 4]



[Fig. 5]



[Fig. 6]

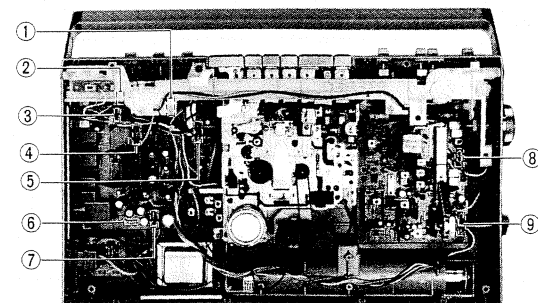


[Fig. 7]

Procedure	To remove —	Remove —	Shown in fig. —
1	Front panel	Screw 3.5×50, (A)×6	2
	Telescopic antenna	Screw 3×15, (B)×1	
2	Dial scale	Dial chassis (C)	3
3	Radio circuit board	Knob (D)×6, Circlip (E)×1, Red Screw 3×12, (F)×8	4
4	Mechanism	Red Screw 3×12, (G)×3	5
	Handle	Handle holding spring (H)×2	
5	Audio circuit board	Knob (I)×3, Red Screw 3×12, (J)×9	6
6	Tone circuit board	Screw 3×10, (K)×2	7
7	Dial chassis	Screw 3×10, (L)×2, Screw 2.6×8, (M)×1	7

CONNECTOR POSITIONS

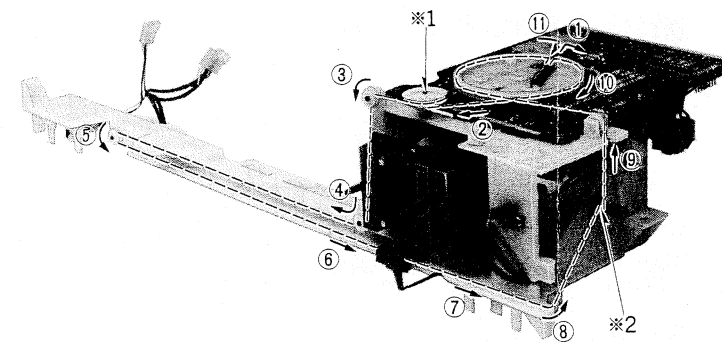
- ① LED meter circuit board connector
- ② Stereo eye connector
- ③ Built-in microphones connector
- ④ Tone circuit board connector
- ⑤ Record/playback head connector
- ⑥ Speakers connector
- ⑦ Power supply connector
- ⑧ External antenna connector
- ⑨ Radio circuit board connector



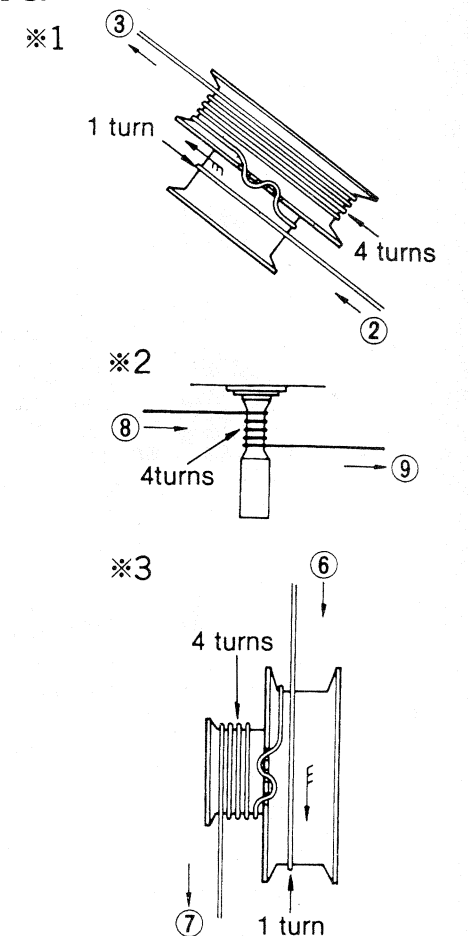
[Fig. 8]

DIAL THREADING

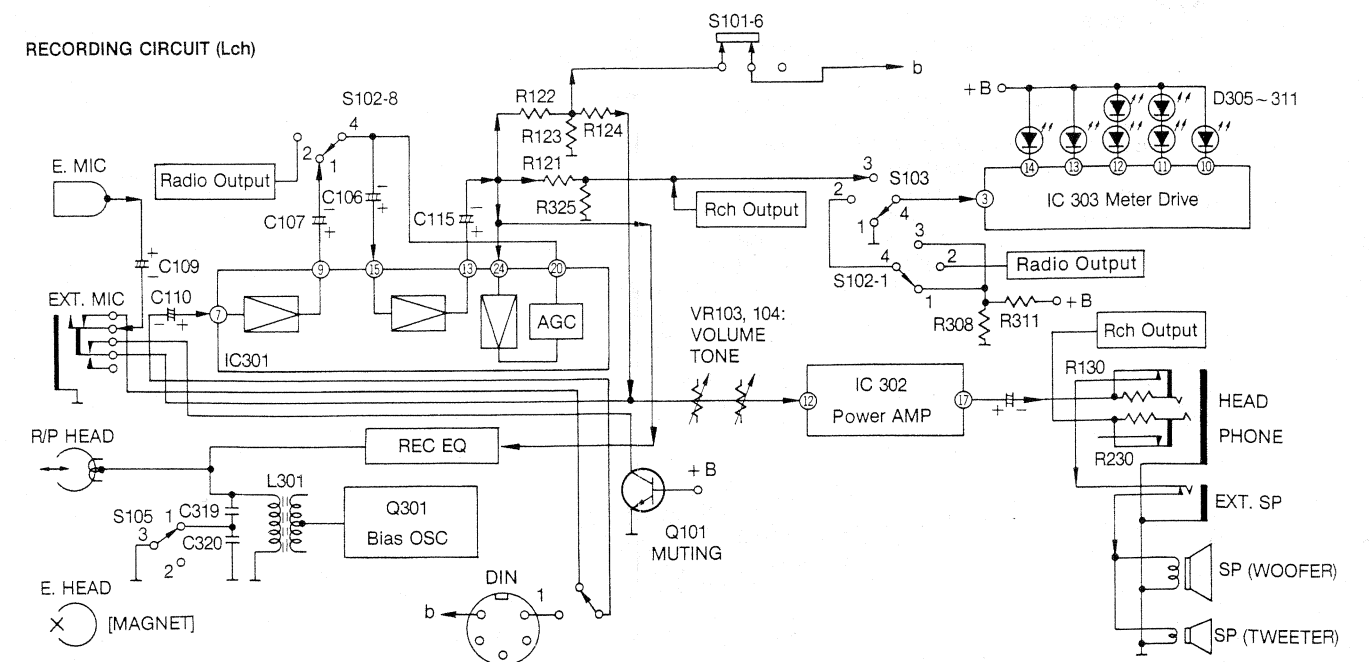
■ DIAL CORD LENGTH: 2000mm



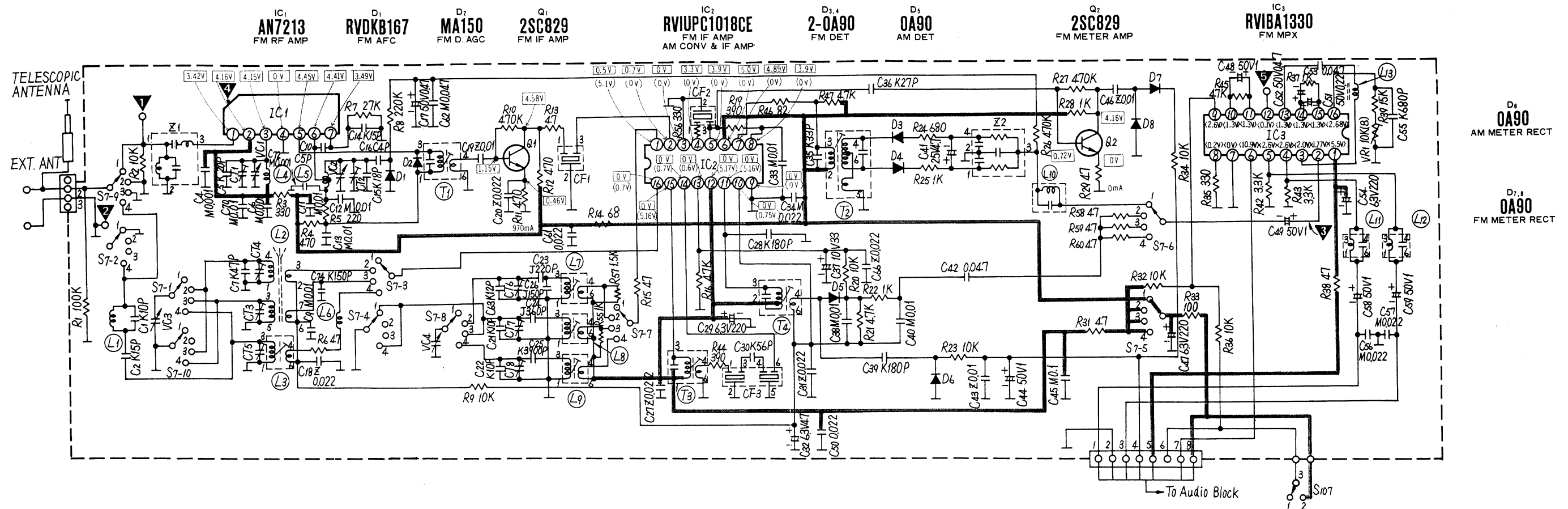
[Fig. 9]



BLOCK DIAGRAM OF ELECTRICAL CIRCUITS



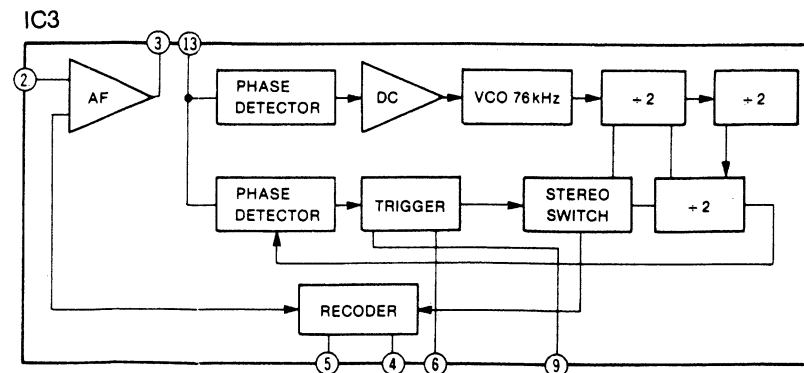
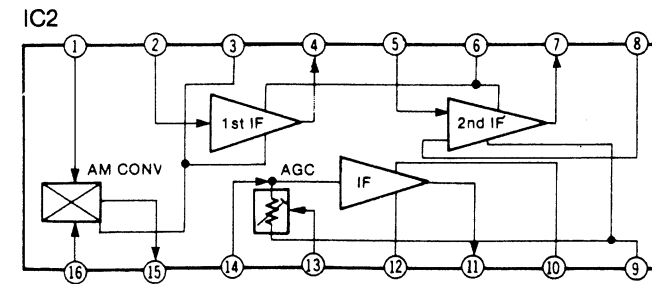
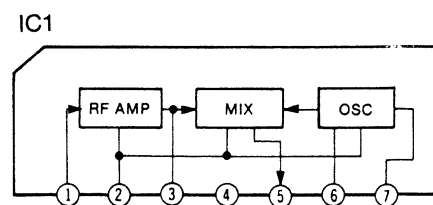
SCHEMATIC DIAGRAM (RADIO CIRCUIT) MODEL RX-5120LS



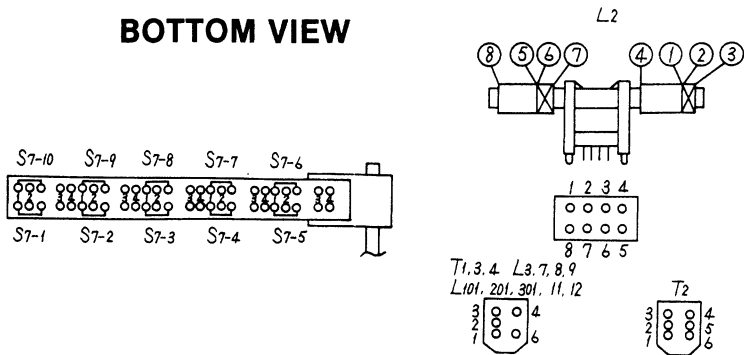
Notes:

- S7-1~S7-10: Band selector switch in "FM" position. (1...FM, 2...LW, 5...MW, 6...SW)
- S107: FM mode switch (shown in stereo position). 1...STEREO, 2...MONAURAL
- DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
 □...FM Position, ()...AM Position
- Battery current: No signal 120mA
 Maximum output (Radio) 1.1A
- VR1.....VCO Oscillator Frequency Adjust.
- The mark (▼) shows test point. e.g. ▼ = test point 1.

IC BLOCK DIAGRAM

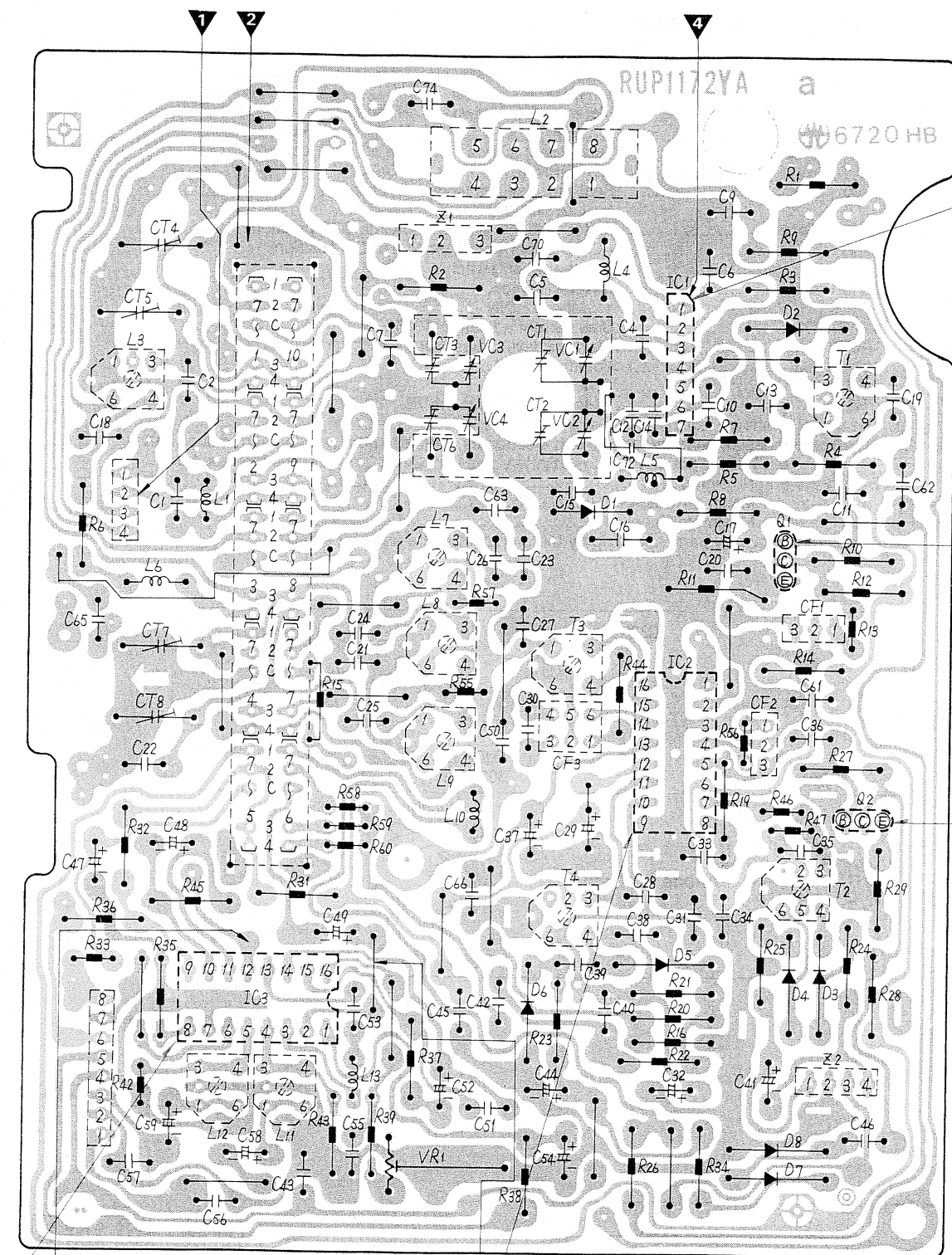


BOTTOM VIEW



	Cathode Anode D2
	Cathode Anode D3, 4
	Anode Cathode Anode D5, 6, 7, 8

RADIO CIRCUIT BOARD



IC1

FM	
1	3.42V
2	4.16V
3	4.15V
4	0V
5	4.45V
6	4.41V
7	3.49V

Q1

FM	
C	4.58V
B	1.15V
E	0.46V
Ie	970mA

Q2

FM	
C	4.16V
B	0.72V
E	0V
Ie	0mA

IC3

FM STEREO POSITION							
1	5.5V	5	2.6V	9	2.6V	13	1.3V
2	1.77V	6	10.9V	10	1.3V	14	1.3V
3	2.0V	7	0V	11	1.3V	15	1.3V
4	2.6V	8	0.2V	12	0.1V	16	2.68V

IC2

1	FM 0.5V	5	FM 3.9V	9	FM 0V	13	FM 0V
	AM 5.1V		AM 0V		AM 0V		AM 0.6V
2	FM 0.7V	6	FM 5.0V	10	FM 0V	14	FM 0V
	AM 0V		AM 0V		AM 0.75V		AM 0.7V
3	FM 0V	7	FM 4.89V	11	FM 0V	15	FM 0V
	AM 0V		AM 0V		AM 5.16V		AM 5.16V
4	FM 3.3V	8	FM 3.9V	12	FM 0V	16	FM 0V
	AM 0V		AM 0V		AM 5.17V		AM 0.7V

ALIGNMENTS

ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT					
1. Set volume control to maximum.	4. Set tape/radio/sleep selector to radio.				
2. Set tone control to center.	5. Set power source voltage to 12V DC.				
3. Set band switch to MW, LW, SW or FM.	6. Output of signal generator should be no higher than necessary to obtain an output reading.				

LW, MW, AND SW ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
AM IF ALIGNMENT						
(1) MW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. at 400 Hz	Point of non-interference.	Output meter across voice coil	T3 (AM 1st IFT) T4 (AM 2nd IFT)	Adjust for maximum output.
LW-RF ALIGNMENT						
(2) LW	"	145 kHz	145 kHz [11.2mm (19/32")]	Output meter across voice coil	L7 (LW OSC Coil) (*1) L2 (LW ANT Coil)	Adjust for maximum output. Adjust L2 by moving coil bobbin along ferrite core.
(3) LW	"	285 kHz	285 kHz [166 mm (6 17/32")]	"	CT6 (LW OSC Trimmer) CT4 (LW ANT Trimmer)	Adjust for maximum output. Repeat steps (2) and (3).
(*1) Cement antenna bobbin with wax after completing alignment.						
MW-RF ALIGNMENT						
(4) MW	"	550 kHz	550 kHz [12.9 mm (1/2")]	Output meter across voice coil	L8 (MW OSC Coil) (*2) L2 (MW ANT Coil)	Adjust for maximum output. Adjust L2 by moving coil bobbin along ferrite core.
(5) MW	"	1,500 MHz	1,500 kHz [171.1 mm (6 27/32")]	"	CT7 (MW OSC Trimmer) CT3 (MW ANT Trimmer)	Adjust for maximum output. Repeat steps (4) and (5).
(*2) Cement antenna bobbin with wax after completing alignment.						
SW-RF ALIGNMENT						
(6) SW	Connect to EXT ant. terminal through ceramic capacitor (10 PF). Negative side to earth.	6 MHz	6 MHz [8 mm (5/16")]	Output meter across voice coil	L9 (SW OSC Coil) L3 (SW ANT Coil)	Adjust for maximum output.
(7) SW	"	18 MHz	18 MHz [188 mm (7 13/32")]	"	CT8 (SW OSC Trimmer) CT5 (SW ANT Trimmer)	Adjust for maximum output. Repeat steps (6) and (7).

FM ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (VTVM or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
(1) FM	Connect to test point 1 through 0.001µF. Negative side to earth.	10.7 MHz	Point of non-interference.	Connect vert. amp. of scope to test point 1. Negative side to test point 2.	T1 (FM IFT) (Primary)	Adjust for maximum amplitude. (Refer to fig. 12.)
(2) FM	"	"	"	"	T2 (FM IFT) (Secondary)	Adjust for maximum amplitude. (Refer to fig. 13.)
FM-RF ALIGNMENT						
(3) FM	Connect to test point 3 through FM dummy antenna. (Refer to fig. 14.)	87.5 MHz	Variable capacitor fully closed.	Output meter across voice coil.	L5 (FM OSC Coil)	(*3) Adjust for maximum output.
(4) FM	"	90 MHz	90 MHz [26.1mm (1 1/32")]	"	L4 (FM TUNE Coil)	(*3) Adjust for maximum output.
(5) FM	"	106 MHz	106 MHz [168mm (6 5/8")]	"	CT2 (FM OSC Trimmer) CT1 (FM TUNE Trimmer)	(*3) Adjust for maximum output. Repeat steps (3)~(5).

(*3) Three output responses will be present; proper tuning is the center frequency.

ALIGNMENTS

ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
1. Set volume control to maximum.	4. Set tape/radio/sleep selector to radio.
2. Set tone control to center.	5. Set power source voltage to 12V DC.
3. Set band switch to MW, LW, SW or FM.	6. Output of signal generator should be no higher than necessary to obtain an output reading.

LW, MW, AND SW ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
AM IF ALIGNMENT						
(1) MW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. at 400 Hz	Point of non-interference.	Output meter across voice coil	T3 (AM 1st IFT) T4 (AM 2nd IFT)	Adjust for maximum output.
LW-RF ALIGNMENT						
(2) LW	"	145 kHz	145 kHz [11.2mm (1/2")]	Output meter across voice coil	L7 (LW OSC Coil) (*1) L2 (LW ANT Coil)	Adjust for maximum output. Adjust L2 by moving coil bobbin along ferrite core.
(3) LW	"	285 kHz	285 kHz [166 mm (6 1/2")]	"	CT6 (LW OSC Trimmer) CT4 (LW ANT Trimmer)	Adjust for maximum output. Repeat steps (2) and (3).
(*1) Cement antenna bobbin with wax after completing alignment.						
MW-RF ALIGNMENT						
(4) MW	"	550 kHz	550 kHz [12.9 mm (1/2")]	Output meter across voice coil	L8 (MW OSC Coil) (*2) L2 (MW ANT Coil)	Adjust for maximum output. Adjust L2 by moving coil bobbin along ferrite core.
(5) MW	"	1,500 MHz	1,500 kHz [171.1 mm (6 3/4")]	"	CT7 (MW OSC Trimmer) CT3 (MW ANT Trimmer)	Adjust for maximum output. Repeat steps (4) and (5).
(*2) Cement antenna bobbin with wax after completing alignment.						
SW-RF ALIGNMENT						
(6) SW	Connect to EXT ant. terminal through ceramic capacitor (10 PF). Negative side to earth.	6 MHz	6 MHz [8 mm (5/16")]	Output meter across voice coil	L9 (SW OSC Coil) L3 (SW ANT Coil)	Adjust for maximum output.
(7) SW	"	18 MHz	18 MHz [188 mm (7 1/2")]	"	CT8 (SW OSC Trimmer) CT5 (SW ANT Trimmer)	Adjust for maximum output. Repeat steps (6) and (7).

FM ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (VTVM or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
(1) FM	Connect to test point through 0.001μF. Negative side to earth.	10.7 MHz	Point of non-interference.	Connect vert. amp. of scope to test point. Negative side to test point.	T1 (FM IFT) (Primary)	Adjust for maximum amplitude. (Refer to fig. 12.)
(2) FM	"	"	"	"	T2 (FM IFT) (Secondary)	Adjust for maximum amplitude. (Refer to fig. 13.)
FM-RF ALIGNMENT						
(3) FM	Connect to test point through FM dummy antenna. (Refer to fig. 14.)	87.5 MHz	Variable capacitor fully closed.	Output meter across voice coil.	L5 (FM OSC Coil)	(*3) Adjust for maximum output.
(4) FM	"	90 MHz	90 MHz [26.1mm (1 1/2")]	"	L4 (FM TUNE Coil)	(*3) Adjust for maximum output.
(5) FM	"	106 MHz	106 MHz [168mm (6 5/8")]	"	CT2 (FM OSC Trimmer) CT1 (FM TUNE Trimmer)	(*3) Adjust for maximum output. Repeat steps (3)–(5).

(*3) Three output responses will be present; proper tuning is the center frequency.

LED METER ALIGNMENT

ITEM	ADJUSTMENT	REMARKS
Battery check	VR301	1. Supply DC 8.5V through the DC IN jack. 2. Adjust VR301 so that the 5th LED from left begins to illuminate.

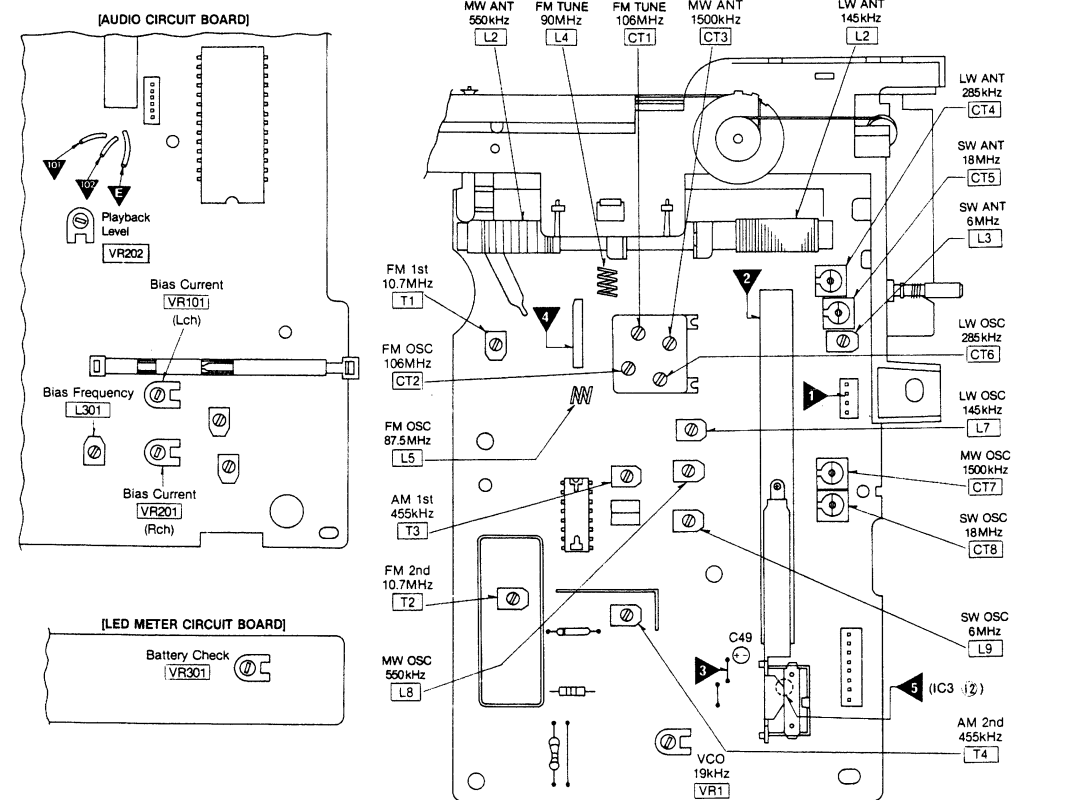
SEPARATION ALIGNMENT

ITEM	SIGNAL 90MHz, 60dB SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
Adjustment of pilot signal.	—	... (+) side ... (-) side	VR1	19kHz	Adjust VR1 for 19kHz (±200Hz) reading on electronics counter.

AUDIO ADJUSTMENT

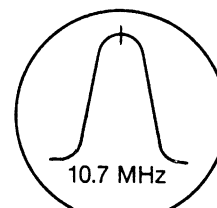
ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Bias current	—	(Lch) (Rch) (Earth)	4.1±0.2mV (Use CrO ₂ tape)	VR101 (Lch) VR201 (Rch)	Record mode Beat Proof → I
Bias oscillation frequency	—		52kHz±1kHz (Use CrO ₂ tape)	L301	Record mode (Beat Proof → I)
Playback level	QZZCFM (315Hz, 0dB)	Speaker	—	VR202 (Rch)	Playback mode

ADJUSTMENT PARTS LOCATION



[Fig. 10]

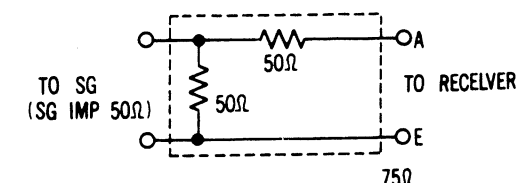
[Fig. 11]



[Fig. 12]



[Fig. 13]



[Fig. 14] FM Dummy Antenna

IC1

FM	V
1	3.42 V
2	4.16 V
3	4.15 V
4	0 V
5	4.45 V
6	4.41 V
7	3.49 V

Q1

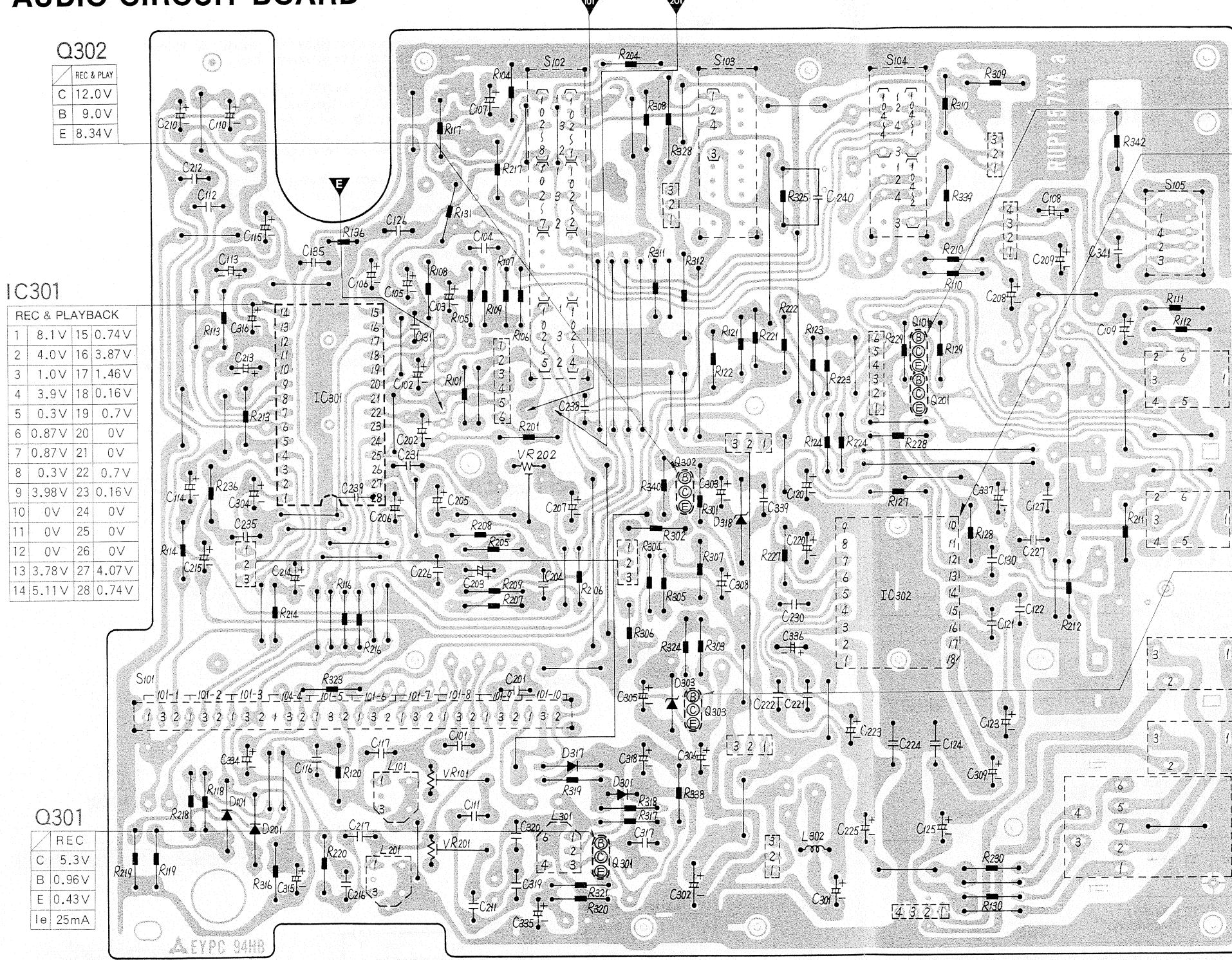
FM	V
C	4.58 V
B	1.15 V
E	0.46 V
Ie	970 mA

Q2

FM	V
C	4.16 V
B	0.72 V
E	0 V
Ie	0 mA

0 V
0.6 V
0 V
0.7 V
0 V
1.6 V
0 V
0.7 V

AUDIO CIRCUIT BOARD



Q302

REC & PLAY	
C	12.0V
B	9.0V
E	8.34V

Q101
Q201

REC	
C	0V
B	0.7V
E	0V
Ie	0 mA

IC301

REC & PLAYBACK		
1	8.1V	15 0.74V
2	4.0V	16 3.87V
3	1.0V	17 1.46V
4	3.9V	18 0.16V
5	0.3V	19 0.7V
6	0.87V	20 0V
7	0.87V	21 0V
8	0.3V	22 0.7V
9	3.98V	23 0.16V
10	0V	24 0V
11	0V	25 0V
12	0V	26 0V
13	3.78V	27 4.07V
14	5.11V	28 0.74V

IC302

REC & PLAYBACK		
1	12V	10 3.2V
2	6.4V	11 0.5V
3	0V	12 3.1V
4	11.1V	13 3.2V
5	1.4V	14 1.46V
6	3.1V	15 11.1V
7	3.1V	16 0V
8	2.1V	17 6.44V
9	0V	18 11.79V

J3
EXT. MIC
(L ch)

Q303

REC & PLAY	
C	12.0V
B	7.2V
E	6.56V

J7
EXT. SP
(L ch)

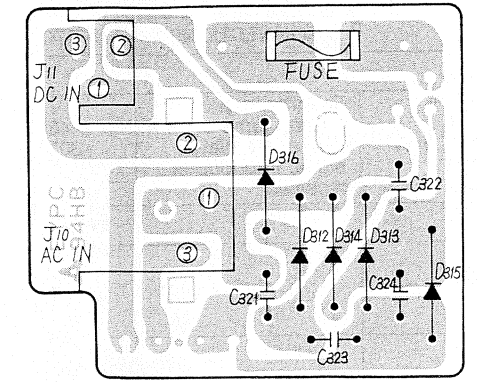
J8
EXT. SP
(R ch)

J9
HEAD
PHONE

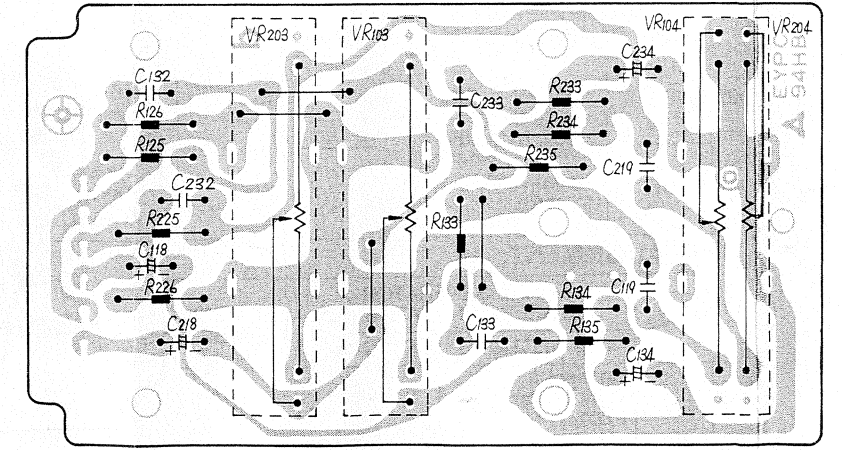
Q301

REC	
C	5.3V
B	0.96V
E	0.43V
Ie	25mA

POWER CIRCUIT BOARD



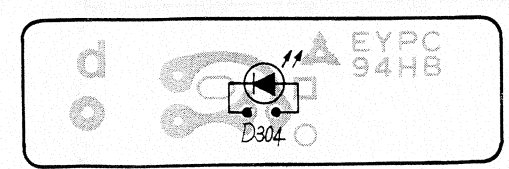
TONE CIRCUIT BOARD



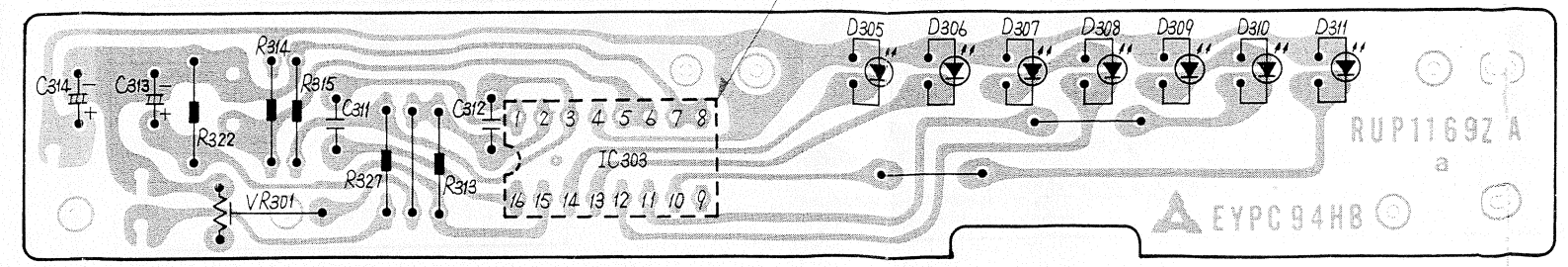
IC303

BATTERY POSITION											
1	0.65V	2	0.12V	3	0.12V	4	8.95V	5	2.83V	6	2.83V
7	0V	8	0V	9	0.23V	10	7.4V	11	5.82V	12	5.82V
13	7.4V	14	7.4V	15	3.14V	16	3.93V				

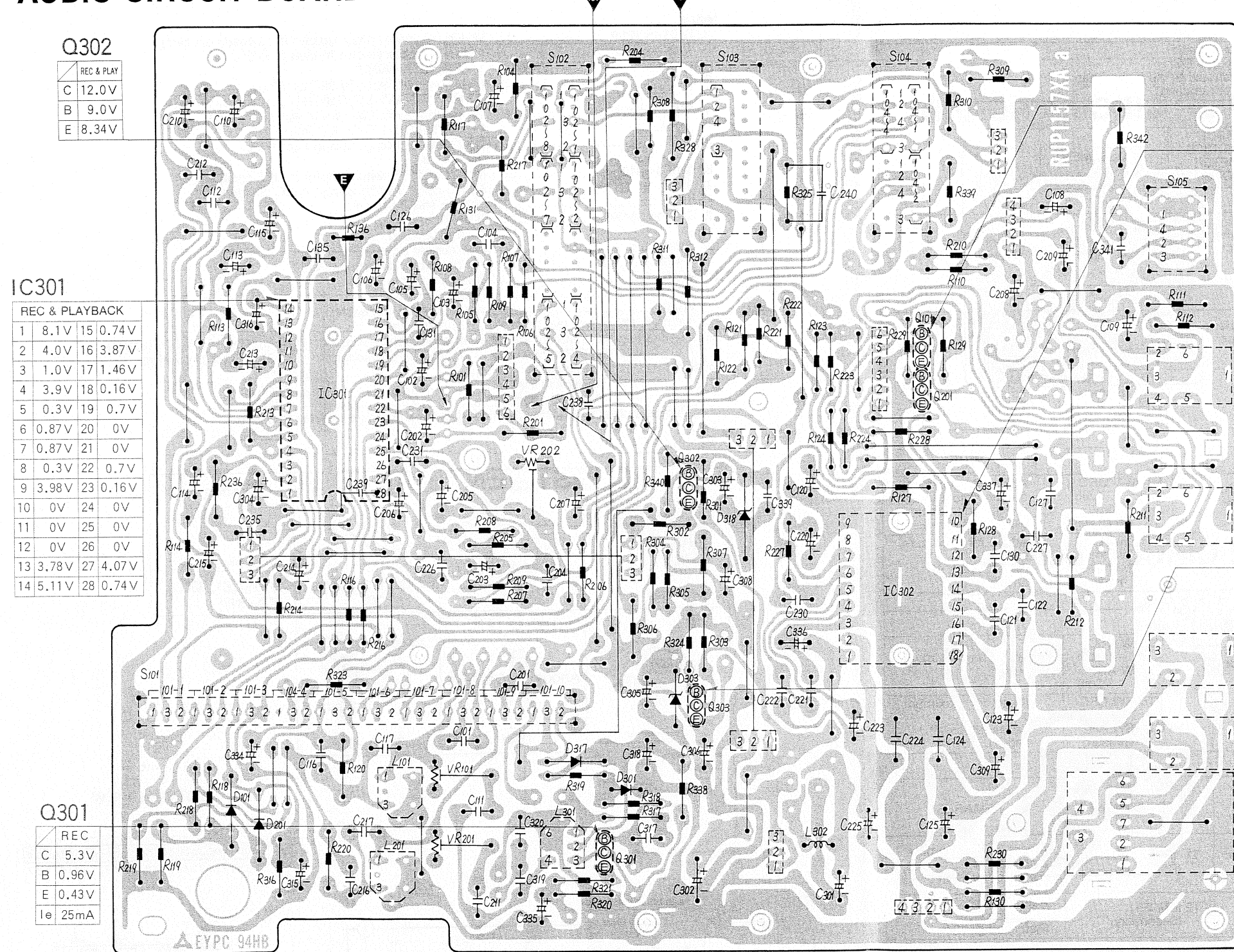
LED (ST. EYE) CIRCUIT BOARD



LED METER CIRCUIT BOARD



AUDIO CIRCUIT BOARD



Q302

REC & PLAY	
C	12.0V
B	9.0V
E	8.34V

Q101

REC	
C	0 V
B	0.7V
E	0 V
Ie	0 mA

IC302

REC & PLAYBACK			
1	12V	10	3.2V
2	6.4V	11	0.5V
3	0V	12	3.1V
4	11.1V	13	3.2V
5	1.4V	14	1.46V
6	3.1V	15	11.1V
7	3.1V	16	0V
8	2.1V	17	6.44V
9	0V	18	11.79V

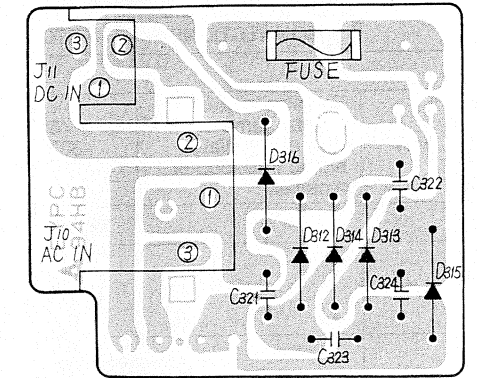
IC301

REC & PLAYBACK			
1	8.1V	15	0.74V
2	4.0V	16	3.87V
3	1.0V	17	1.46V
4	3.9V	18	0.16V
5	0.3V	19	0.7V
6	0.87V	20	0V
7	0.87V	21	0V
8	0.3V	22	0.7V
9	3.98V	23	0.16V
10	0V	24	0V
11	0V	25	0V
12	0V	26	0V
13	3.78V	27	4.07V
14	5.11V	28	0.74V

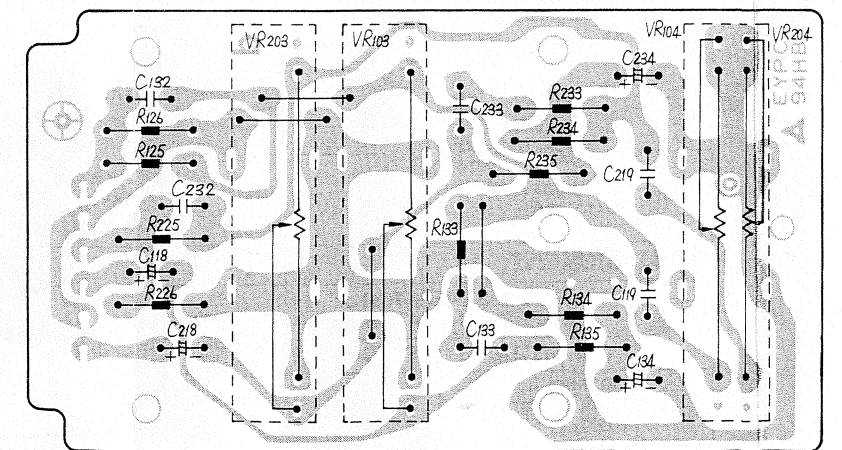
Q301

REC	
C	5.3V
B	0.96V
E	0.43V
Ie	25mA

POWER CIRCUIT BOARD



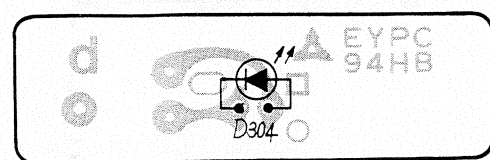
TONE CIRCUIT BOARD



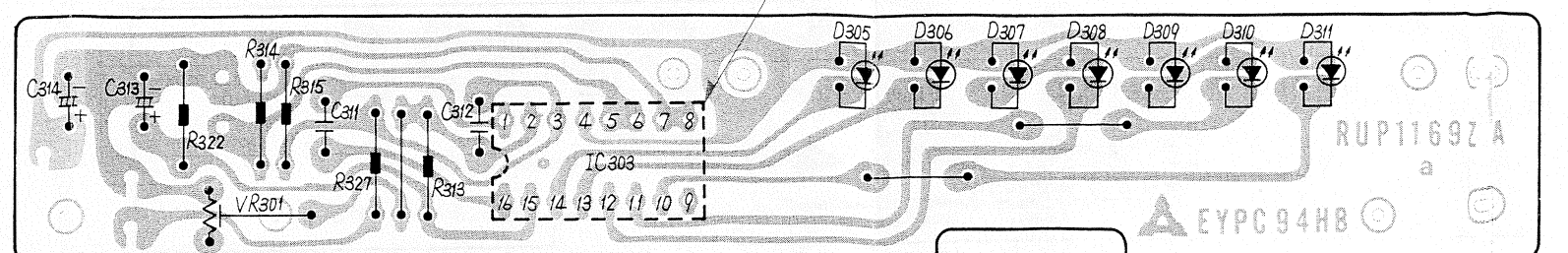
IC303

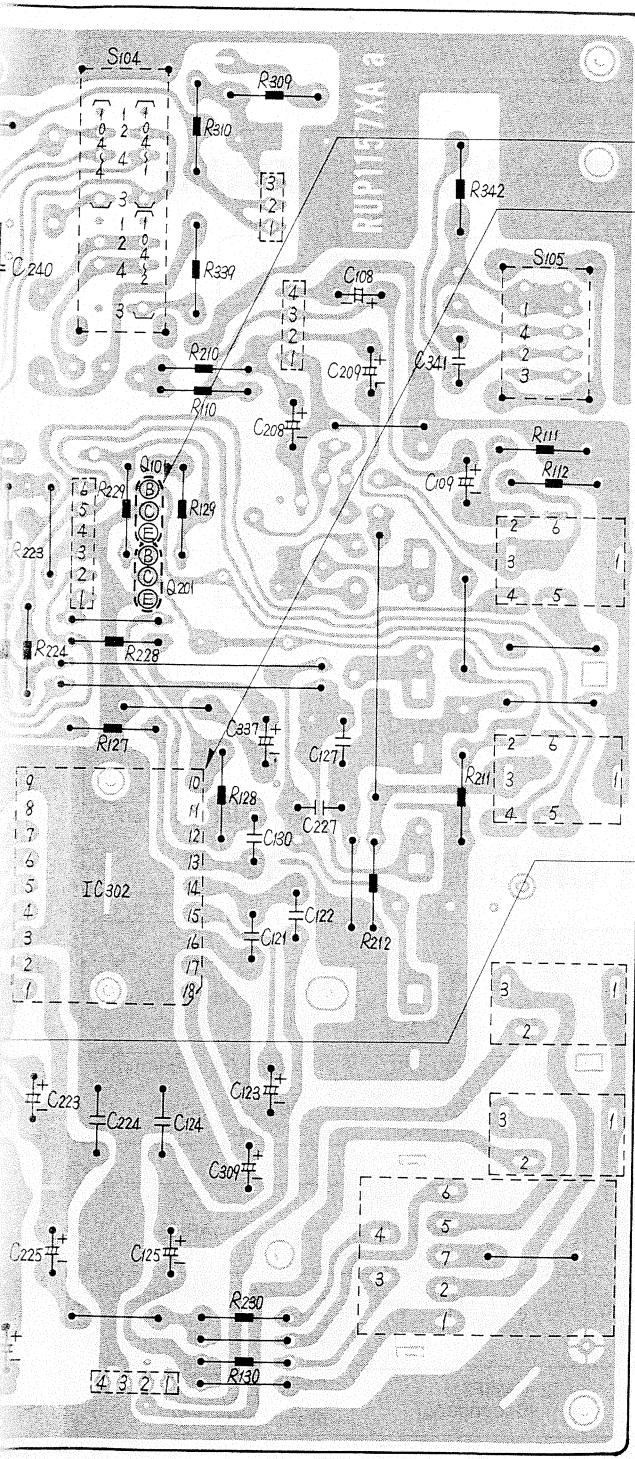
BATTERY POSITION											
1	0.65V	2	0.12V	3	0.12V	4	8.95V	5	2.83V	6	2.83V
7	0V	8	0V	9	0.23V	10	7.4V	11	5.82V	12	5.82V
13	7.4V	14	7.4V	15	3.14V	16	3.93V				

LED (ST. EYE) CIRCUIT BOARD



LED METER CIRCUIT BOARD





Q101
Q201

REC	
C	0 V
E	0.7V
E	0 V
Ie	0 mA

IC302

REC & PLAYBACK			
1	12V	10	3.2V
2	6.4V	11	0.5V
3	0V	12	3.1V
4	11.1V	13	3.2V
5	1.4V	14	1.46V
6	3.1V	15	11.1V
7	3.1V	16	0V
8	2.1V	17	6.44V
9	0V	18	11.79V

J3
EXT. MIC
(L ch)

Q303

REC & PLAY	
C	12.0V
B	7.2V
E	6.56V

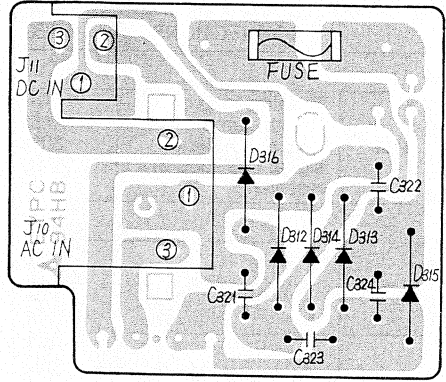
J4
EXT. MIC
(R ch)

J7
EXT. SP
(L ch)

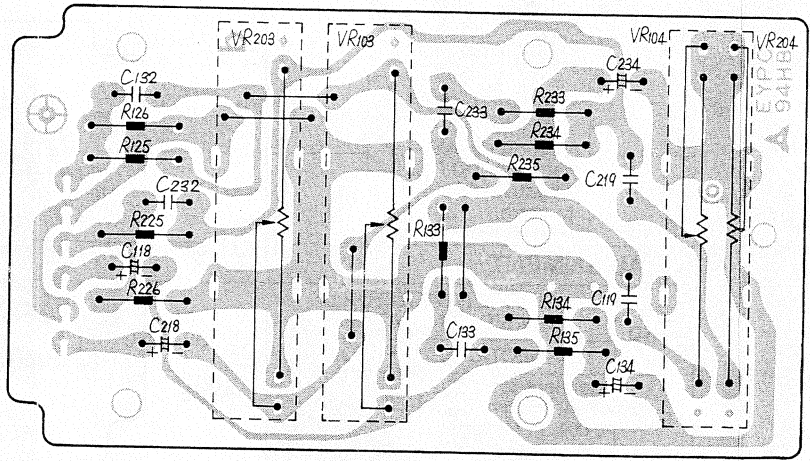
J8
EXT. SP
(R ch)

J9
HEAD
PHONE

POWER CIRCUIT BOARD



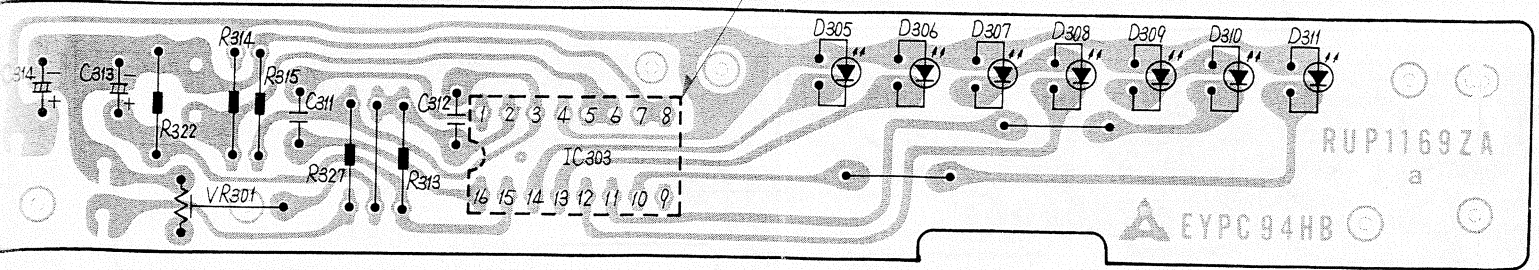
TONE CIRCUIT BOARD



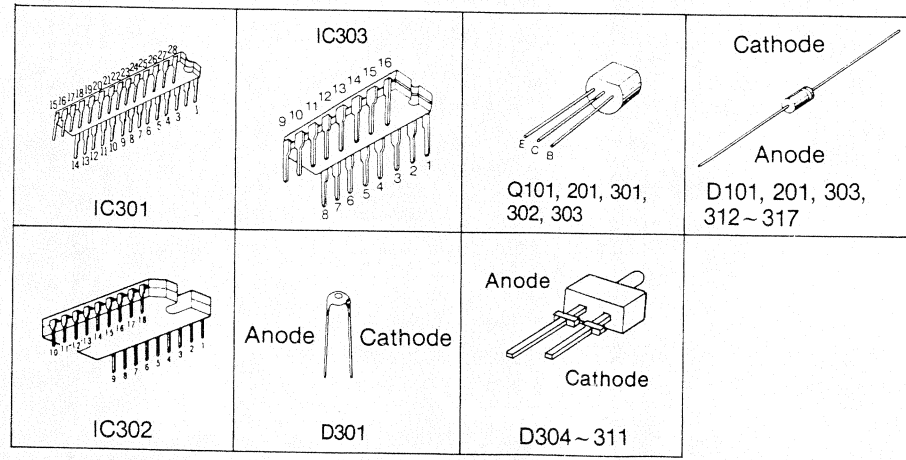
IC303

BATTERY POSITION												
1	0.65V	2	0.12V	3	0.12V	4	8.95V	5	2.83V	6	2.83V	
7	0V	8	0V	9	0.23V	10	7.4V	11	5.82V	12	5.82V	
13	7.4V	14	7.4V	15	3.14V	16	3.93V					

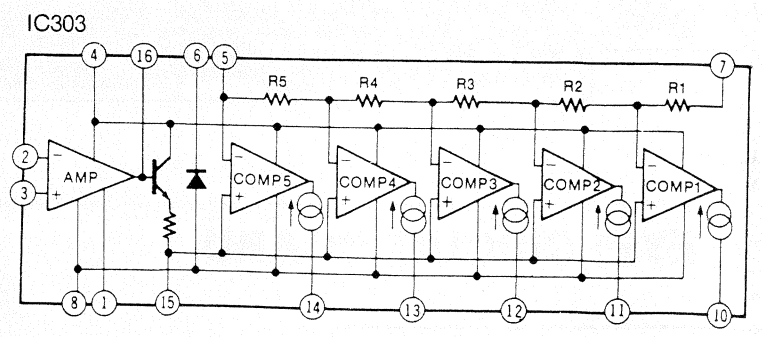
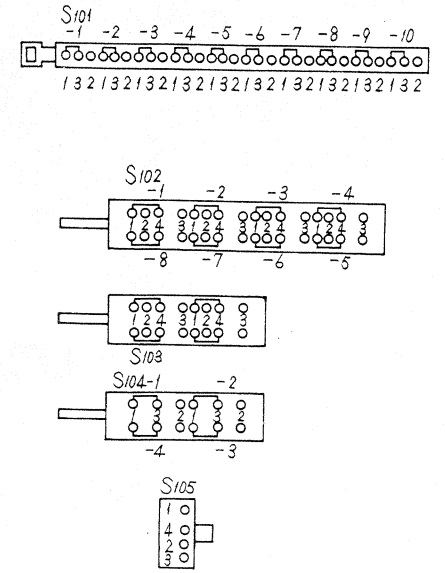
LED METER CIRCUIT BOARD



- Notes:
- S101-1~S101-9Record/playback switch (shown in playback position).
 - S102-1~S102-6Function switch (shown in tape position).
1...TAPE, 2...RADIO
 - S103Meter switch (shown in OFF position).
1...OFF, 2...BATTERY/TUNING, 3...LEVEL
 - S104-1~S104-3Tape select switch (shown in normal position).
1...NORMAL, 2...FeCr, 3...CrO₂
 - S105Beat proof switch (shown in I position).
1...I, 2...II
 - S106-1~S106-2Motor ON/OFF switch (shown in OFF position).
 - S108AC/DC select switch (shown in DC position).
 - S109Voltage select switch.
 - S110-1~S110-3DIN/MIC switch.
1...MIC, 2...DIN
 - VR101, 201Bias current adjustment VR.
VR202Playback level adjustment VR.
VR103, 203Volume control.
VR104, 204Tone control.
VR301Meter level adjustment VR.
 - The mark (▼) shows test point. e.g. ▼ = Test point 1.
 - DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
< >...FM STEREO position, []...Battery position, Q101, 201, 301...Record position.
 - Battery current: No signal120mA
Maximum (Radio).....1.1A
Maximum (Tape)1.04A
 - Δ indicates that only parts specified by the manufacture be used for safety.

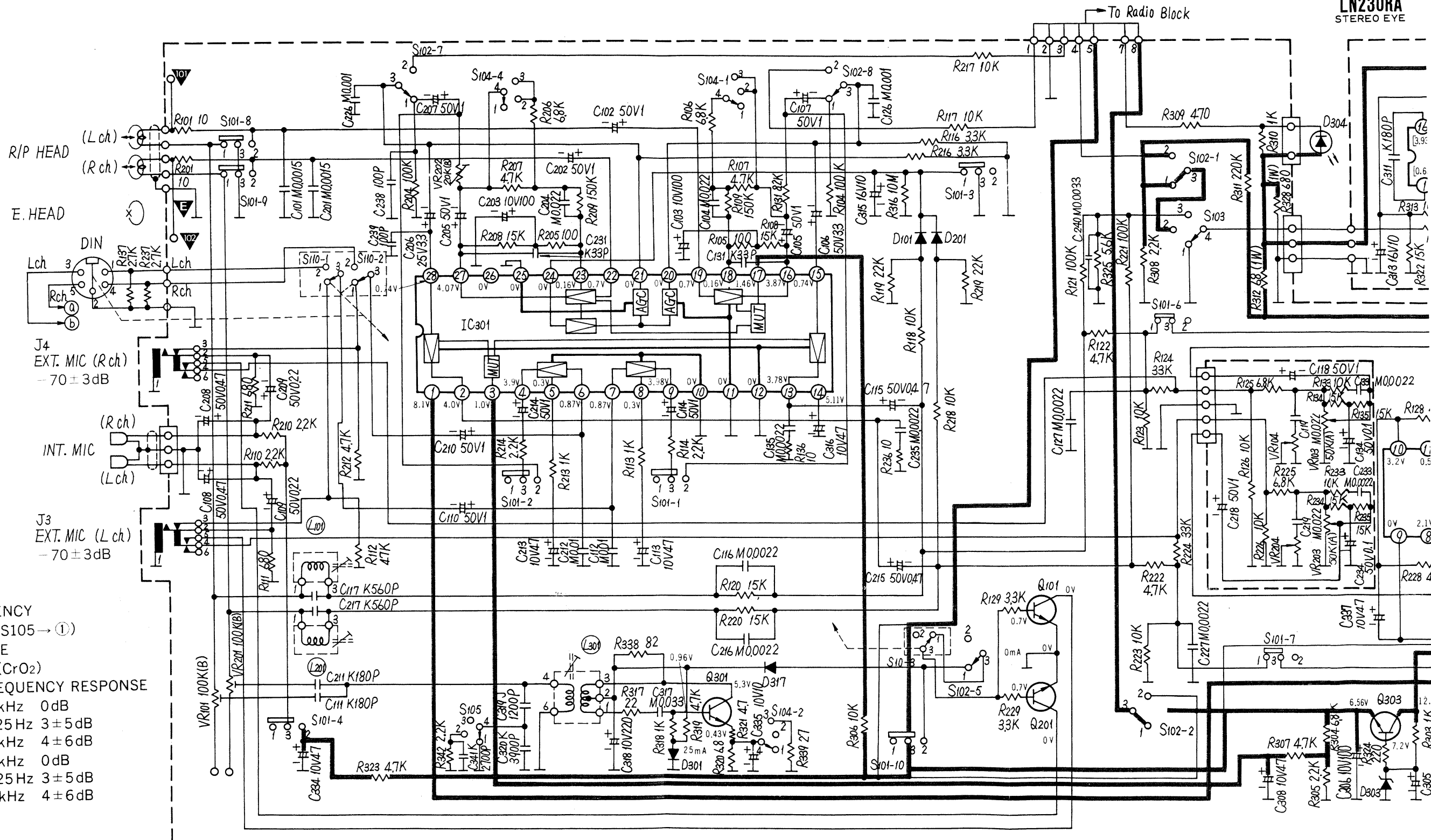


BOTTOM VIEW



SCHEMATIC DIAGRAM (AUDIO CIRCUIT) MODEL RX-5120LS

D304
LN230RA
STEREO EYE



BIAS FREQUENCY
54 ± 1 kHz (S105 → ①)

BIAS VOLTAGE
4 ± 0.2 mV (CrO₂)

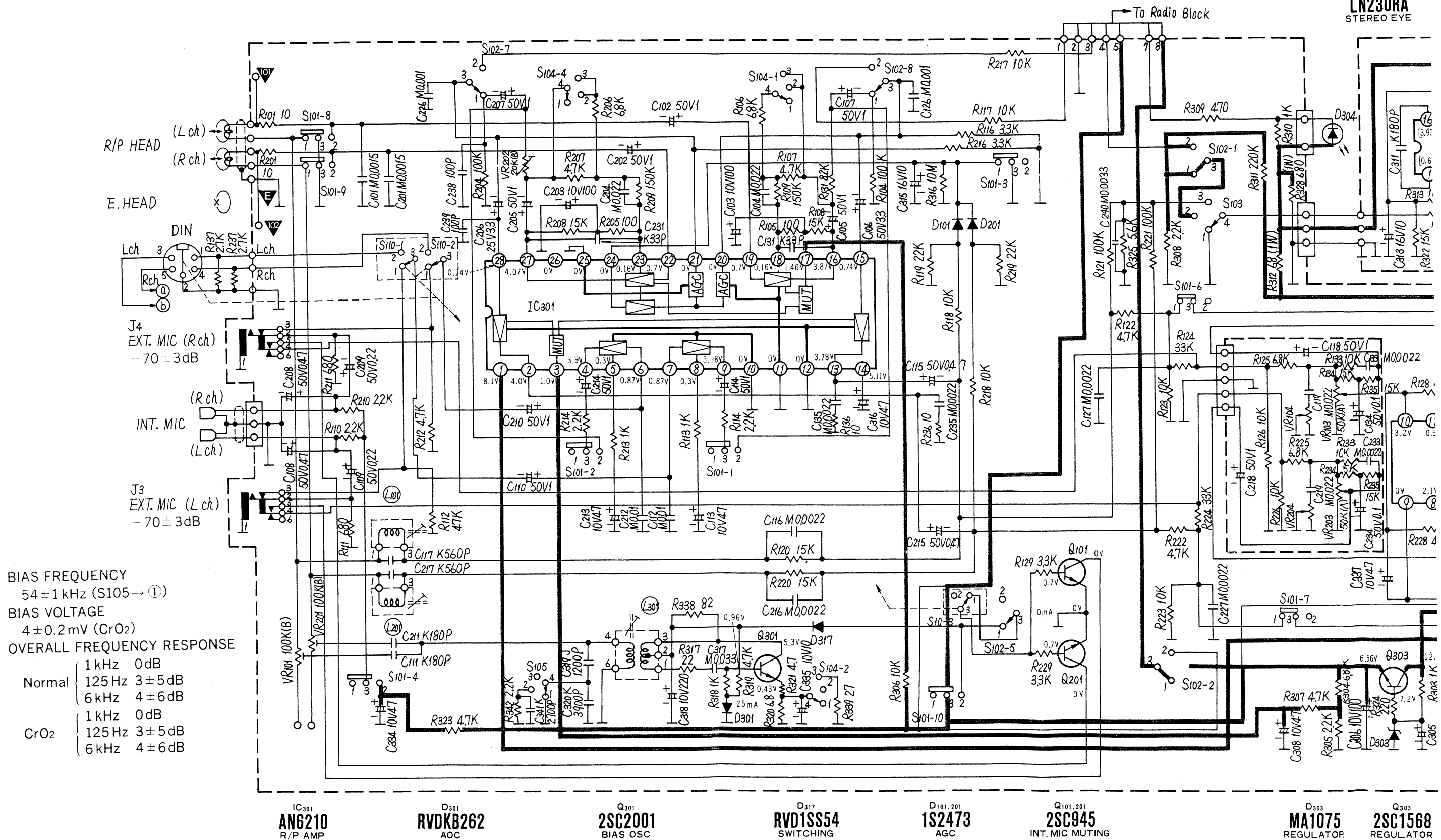
OVERALL FREQUENCY RESPONSE

Normal	1 kHz	0 dB
	125 Hz	3 ± 5 dB
CrO ₂	1 kHz	0 dB
	125 Hz	3 ± 5 dB
	6 kHz	4 ± 6 dB

- IC301
AN6210
R/P AMP
- D301
RVDKB262
AOC
- Q301
2SC2001
BIAS OSC
- D317
RVD1SS54
SWITCHING
- D101,201
1S2473
AGC
- Q101,201
2SC945
INT. MIC MUTING
- D303
MA1075
REGULATOR
- Q303
2SC1568
REGULATOR

SCHEMATIC DIAGRAM (AUDIO CIRCUIT) MODEL RX-5120LS

D304
LN230RA
STEREO EYE



BIAS FREQUENCY
54 ± 1 kHz (S105 → ①)

BIAS VOLTAGE
4 ± 0.2 mV (CrO₂)

OVERALL FREQUENCY RESPONSE

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	125 Hz	3 ± 5 dB
CrO ₂	6 kHz	4 ± 6 dB
	1 kHz	0 dB
	125 Hz	3 ± 5 dB
	6 kHz	4 ± 6 dB

IC301
AN6210
R/P AMP

D301
RVDKB262
AOC

Q301
2SC2001
BIAS OSC

D317
RVD1SS54
SWITCHING

D101,201
1S2473
AGC

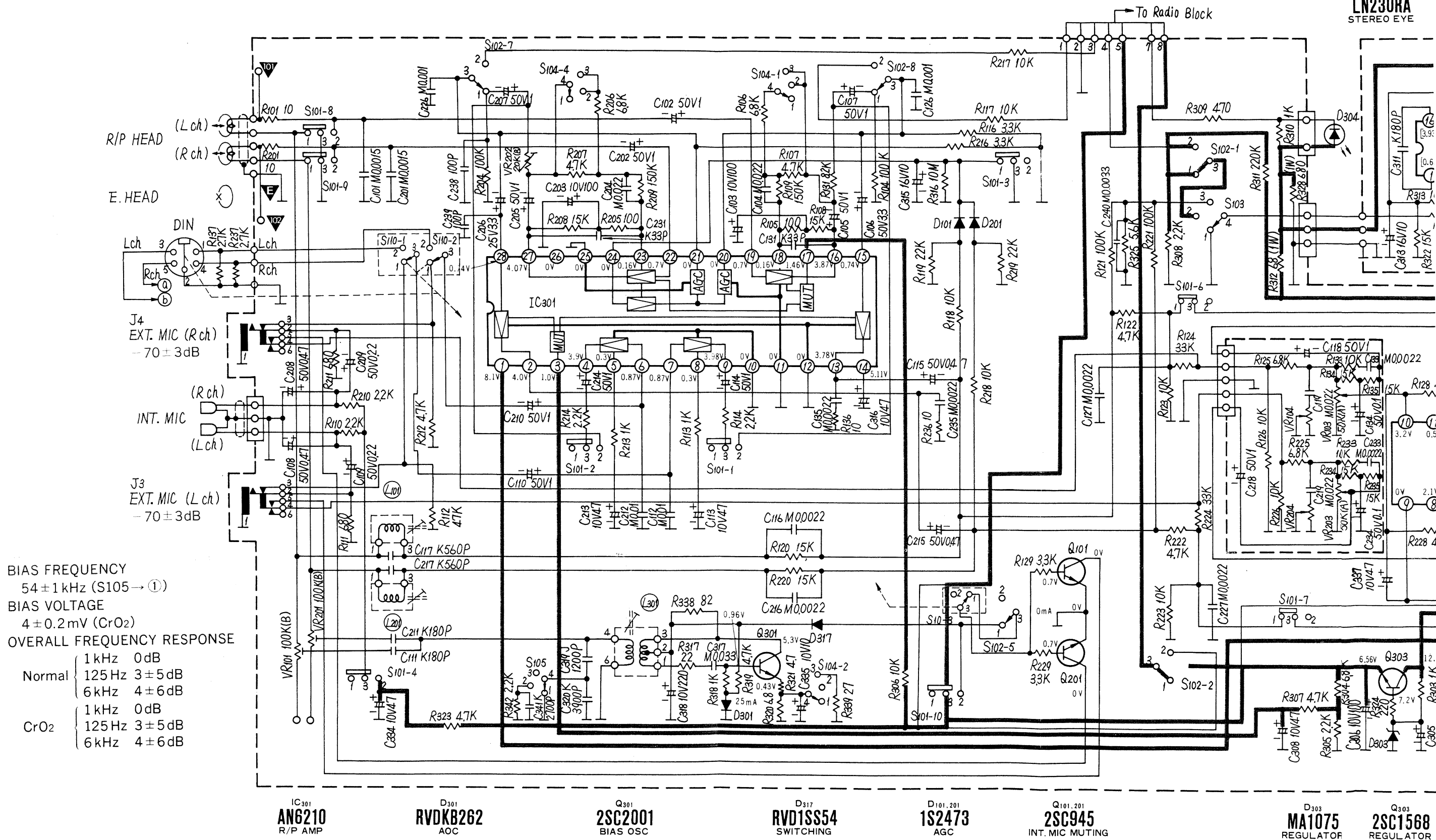
Q101,201
2SC945
INT. MIC MUTING

D303
MA1075
REGULATOR

Q303
2SC1568
REGULATOR

SCHEMATIC DIAGRAM (AUDIO CIRCUIT) MODEL RX-5120LS

D304
LN230RA
STEREO EYE



BIAS FREQUENCY
54 ± 1 kHz (S105 → ①)

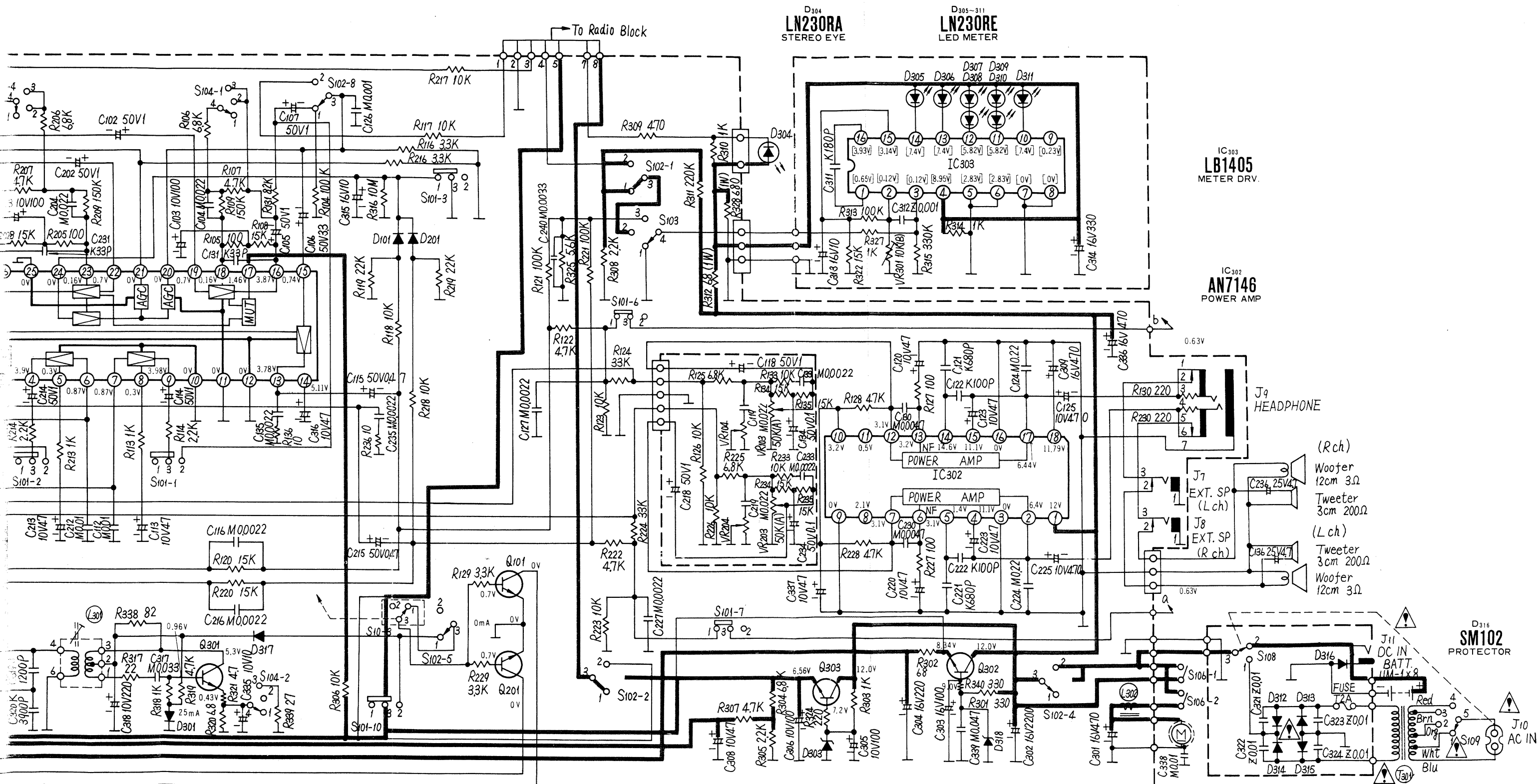
BIAS VOLTAGE
4 ± 0.2 mV (CrO₂)

OVERALL FREQUENCY RESPONSE

Normal	1 kHz	0 dB
	125 Hz	3 ± 5 dB
	6 kHz	4 ± 6 dB
CrO ₂	1 kHz	0 dB
	125 Hz	3 ± 5 dB
	6 kHz	4 ± 6 dB

- IC301
AN6210
R/P AMP
- D301
RVDKB262
AOC
- Q301
2SC2001
BIAS OSC
- D317
RVD1SS54
SWITCHING
- D101, 201
1S2473
AGC
- Q101, 201
2SC945
INT. MIC MUTING
- D303
MA1075
REGULATOR
- Q303
2SC1568
REGULATOR

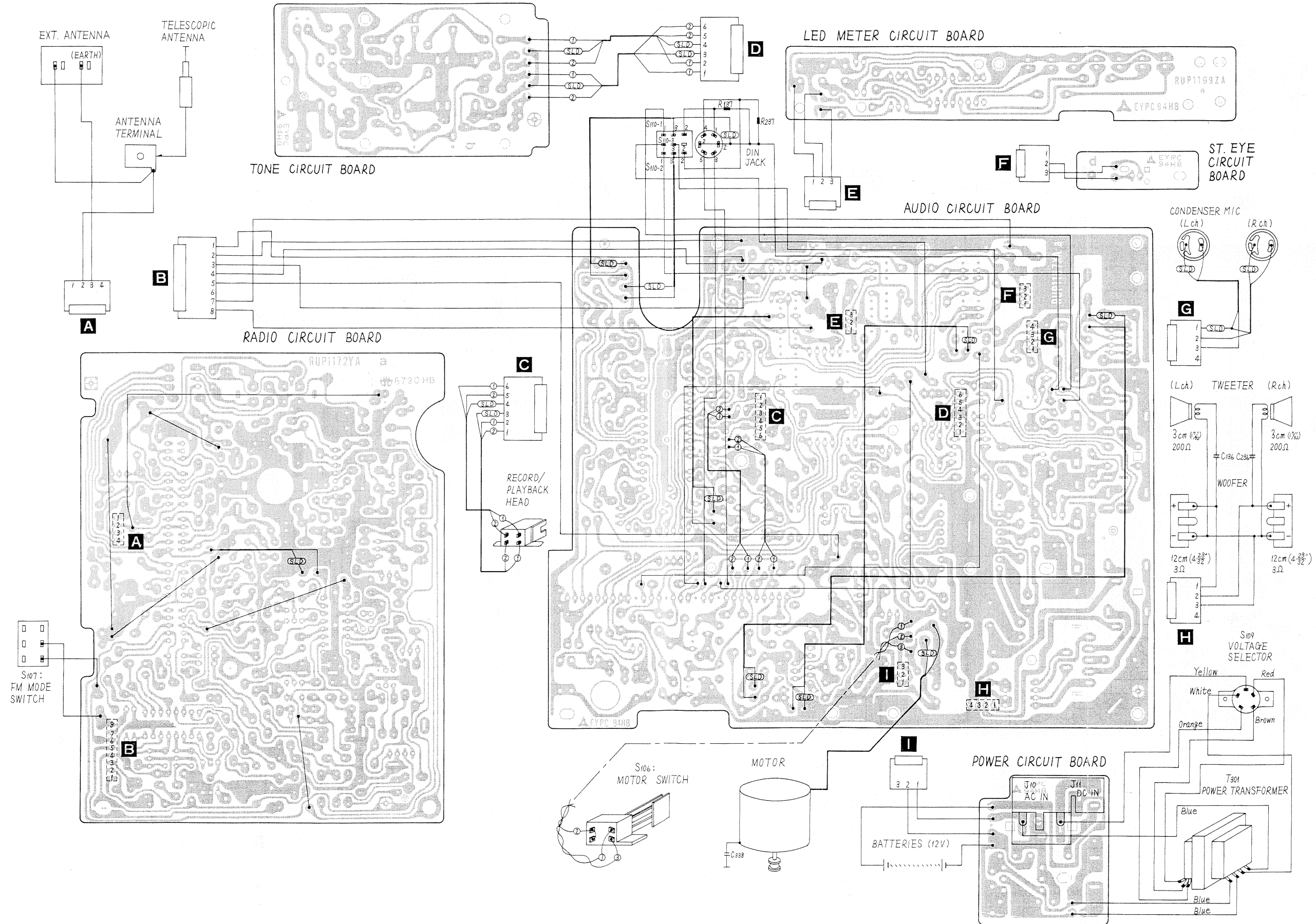
GRAM (AUDIO CIRCUIT) MODEL RX-5120LS



- Q301
2SC2001
BIAS OSC
- D317
RVD1SS54
SWITCHING
- D101, 201
1S2473
AGC
- Q101, 201
2SC945
INT. MIC MUTING
- D303
MA1075
REGULATOR
- Q303
2SC1568
REGULATOR
- Q302
2SC945
RIPPLE FILTER
- Q318
RVDRD9R1EB
REGULATOR

- D312-315
RVD10E1
RECT
- 1: 100~110V
 - 2: 115~127V
 - 3: 200~220V
 - 4: 230~250V
- 50/60HZ

WIRING CONNECTION DIAGRAM MODEL RX-5120LS



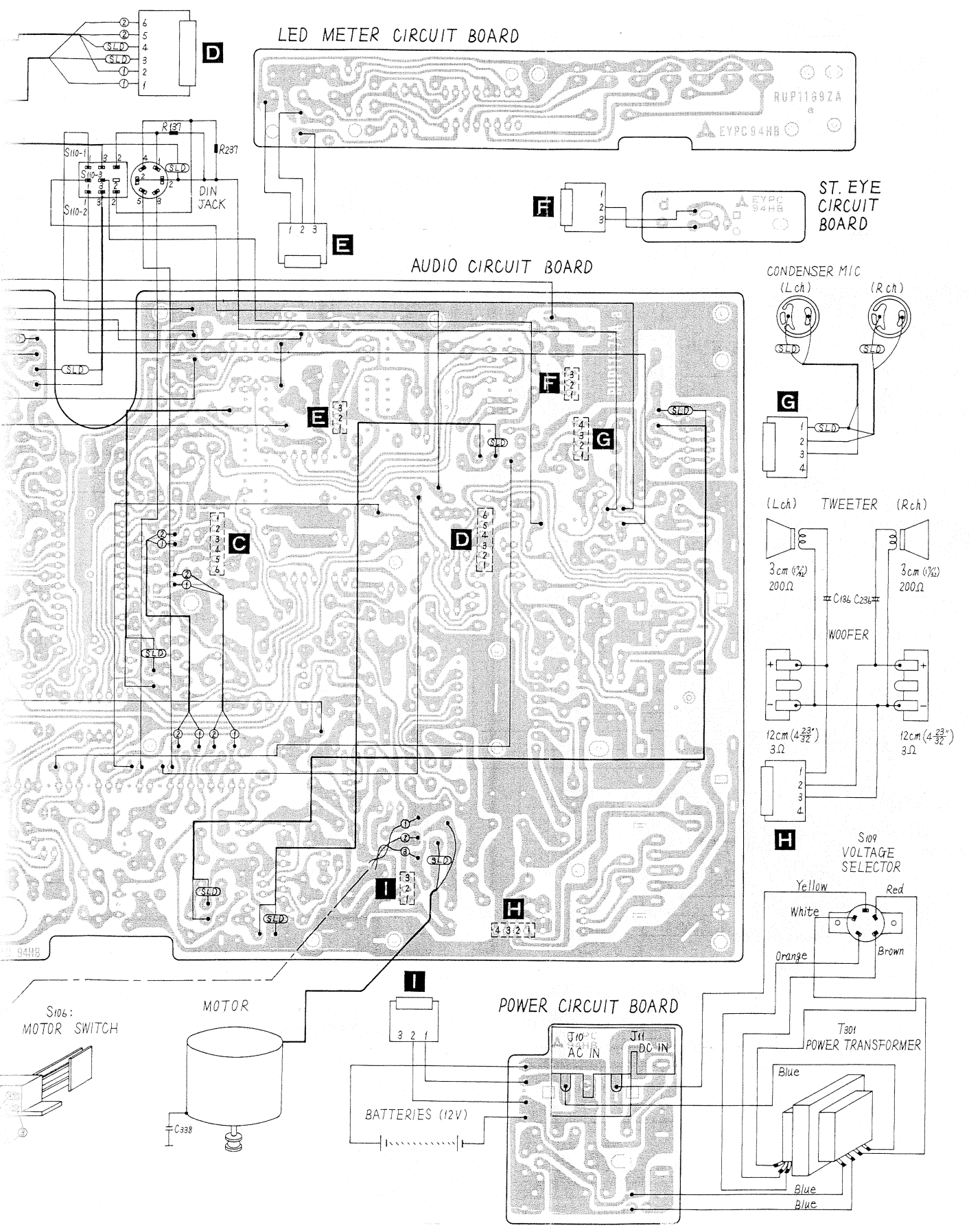
CABINET PARTS

K3

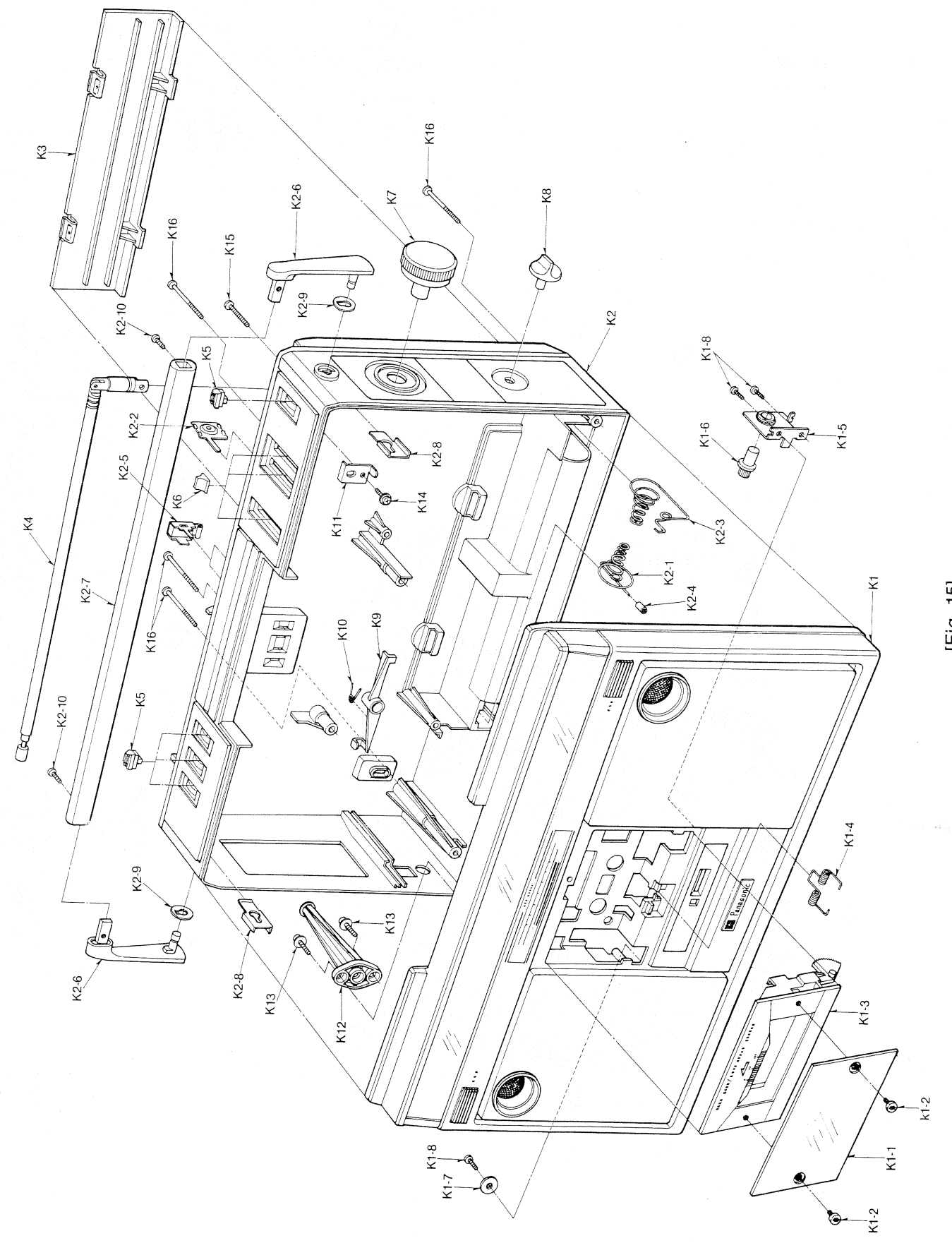
K4

K2-10

DIAGRAM MODEL RX-5120LS

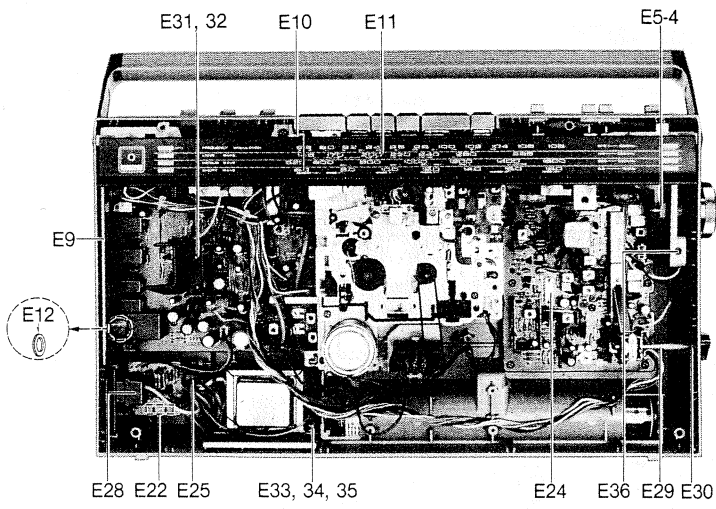


CABINET PARTS

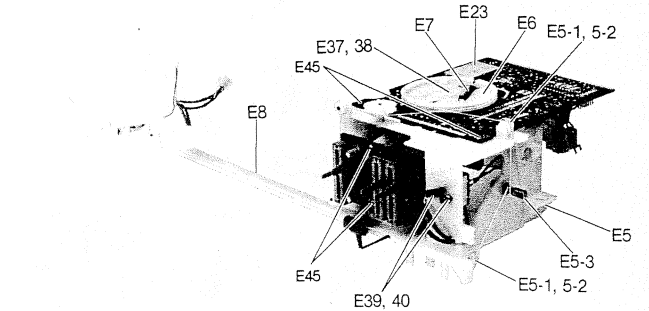


[Fig. 15]

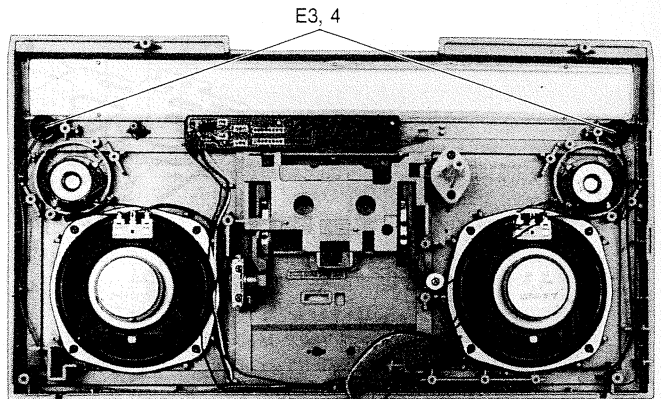
ELECTRICAL PARTS LOCATION



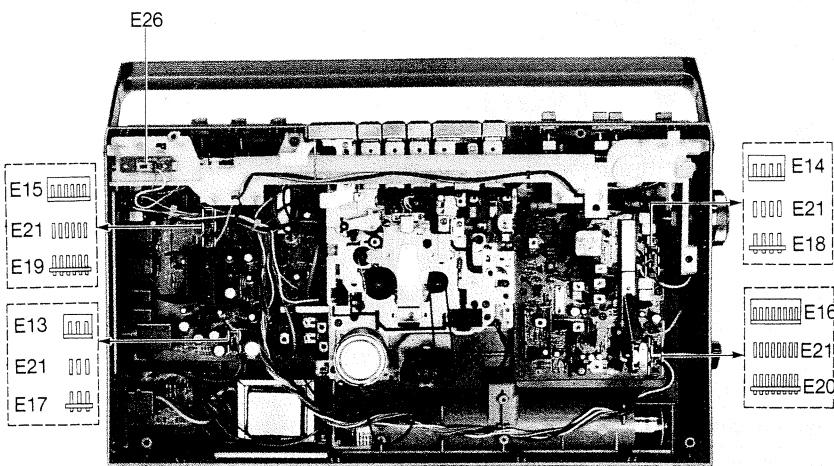
[Fig. 16]



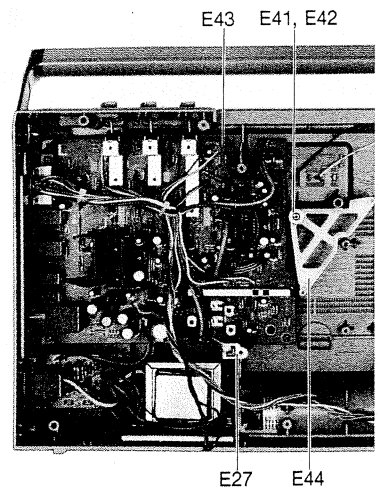
[Fig. 17]



[Fig. 18]

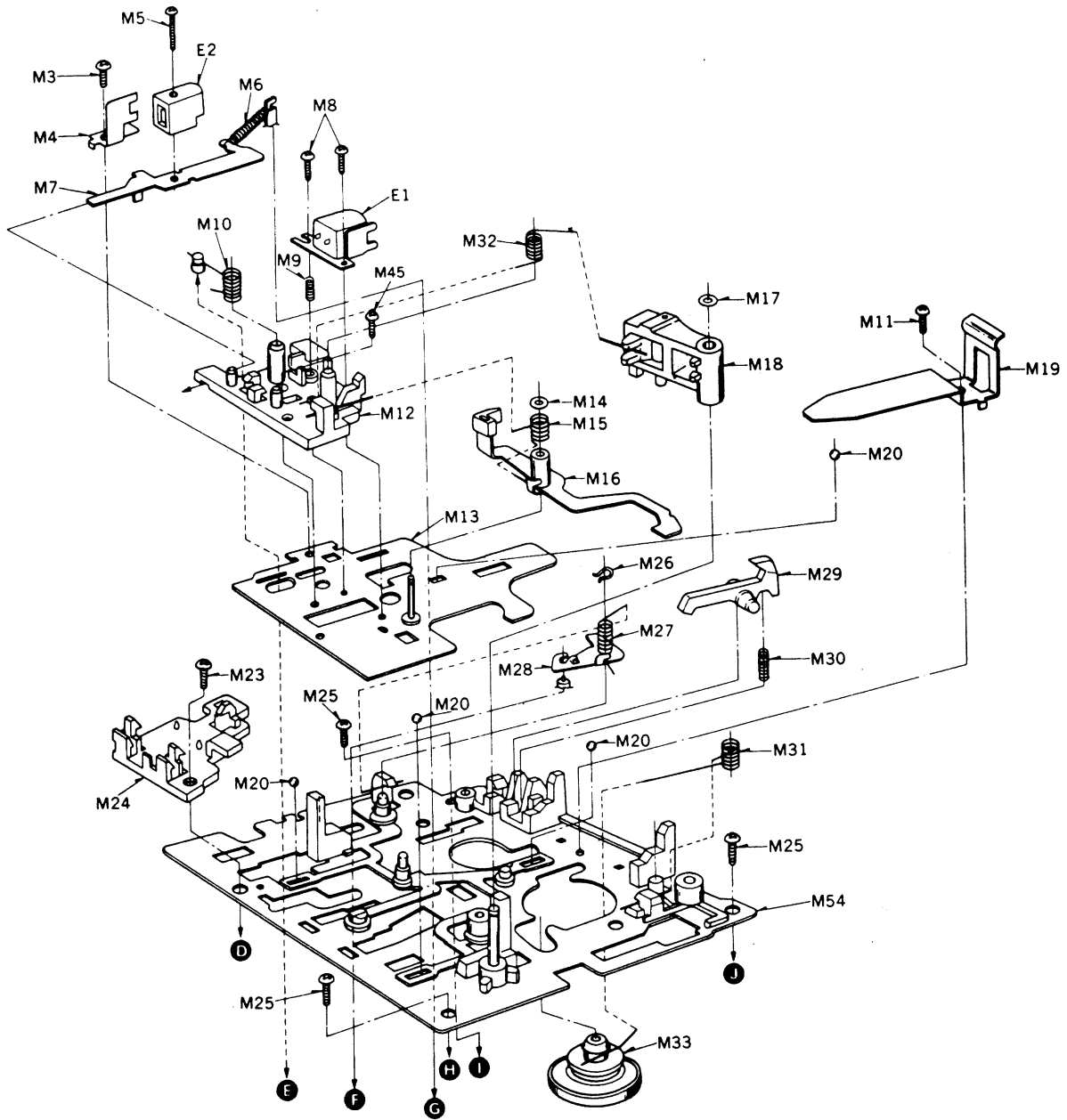


[Fig. 19]



[Fig. 20]

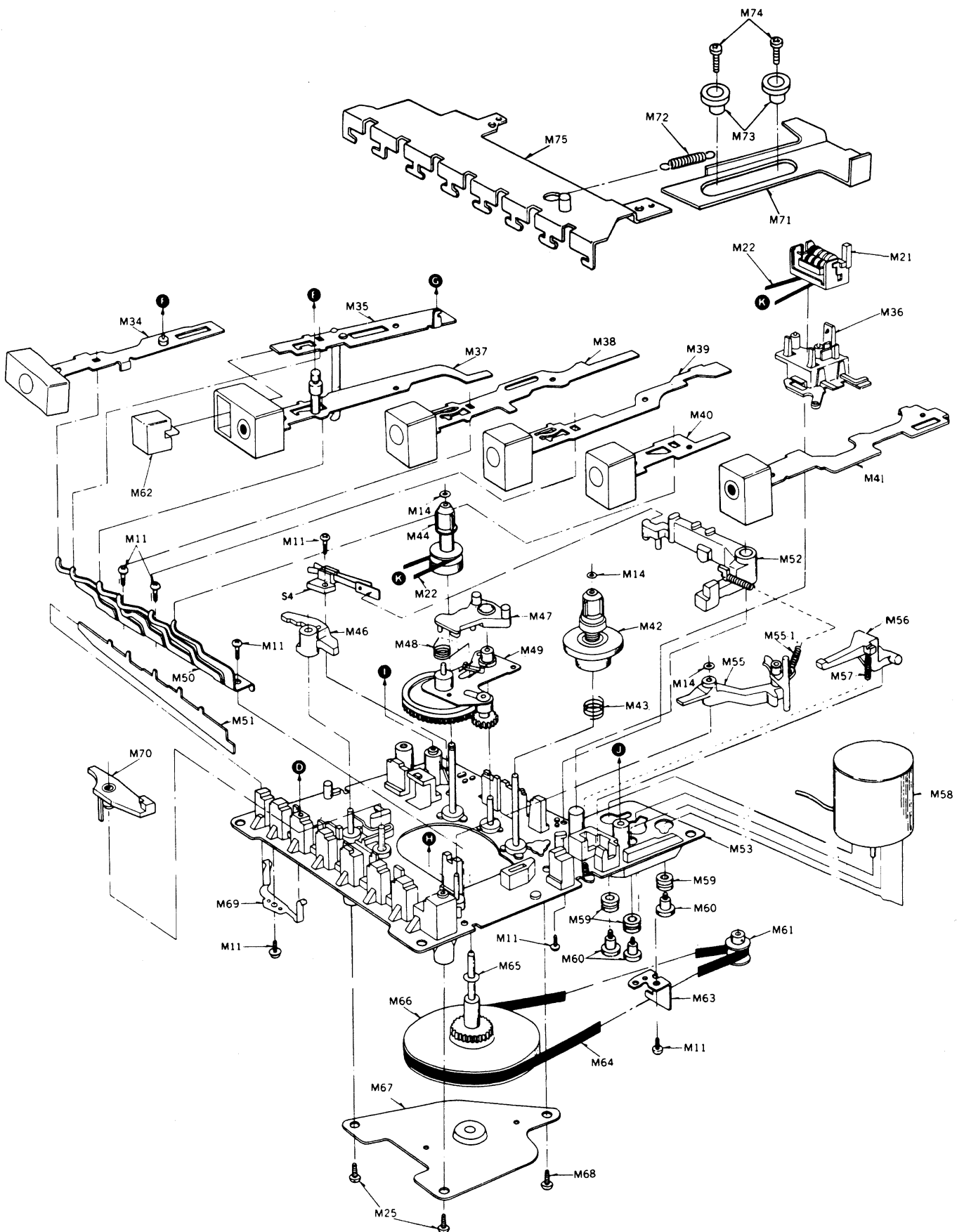
EXPLODED VIEWS



[Fig. 21]

Specification

Pressure of pressure roller	400 ± 60gr
Takeup tension	50 ± 20gr
Tension of detect piece	65 ± 10gr
Wow & flutter	Less than 0.35% (RMS)
Tape speed fluctuation	± 3%



[Fig. 22]

REPLACEMENT PARTS LIST Model RX-5120LS

(RD7912-5070C)

- NOTES:** 1. Δ indicates that only parts specified by the manufacturer be used for safety.
2. The S mark is service standard parts and may differ from production parts.

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
MECHANICAL PARTS				
M3	XSN26+3	Screw, + 2.6x3	1	
M4	QMG0009	Tape Guide	1	
M5	XSN26+12	Screw, + 2.6x12	1	
M6	QBT1813	Spring, Erase Head Rod	1	
M7	QMR1474	Rod, Erase Head	1	
M8	XSN2+8	Screw, + 2x8	2	S
M9	QBC1278	Spring, Head Adjustment	1	
M10	QBN1481	Spring, Playback	1	
M11	XTN26+6B	Screw, + 2.6x6	8	S
M12	QMZ1166	Spacer, Head	1	
M13	QXK1681	Head Base Plate Ass'y	1	
M14	QBW2008	Washer	4	
M15	QBN1478	Spring, Auto-Stop Detector	1	
M16	QXL0982	Auto-Stop Detector Ass'y	1	
M17	QBW2046	Washer	1	
M18	QXL0979	Pressure Roller Ass'y	1	
M19	QBP1659	Head Base Pressure Plate	1	
M20	QDK1017	Steel Ball	4	
M21	QDC0103	Counter	1	
M22	QDB0218	Counter Belt	1	
M23	XTN3+12B	Screw, + 3x12	1	S
M24	QMZ1167	Counter Table	1	
M25	XTN3+10B	Screw, + 3x10	5	S
M26	XUB4FT	Circlip	1	S
M27	QBN1480	Spring, Pause Lock	1	
M28	QML2898	Pause Lock Plate	1	
M29	QML2900	Lever, Erase Safety	1	
M30	QBC1193	Spring, Erase Safety Lever	1	
M31	QBN1479	Spring, Idler	1	
M32	QBN1488	Spring, Pressure Roller	1	
M33	QXI0088	Idler Lever Ass'y	1	
M34	QXR0535	Pause Rod Ass'y	1	
M35	QXR0536	Record Rod Ass'y	1	
M36	QMZ1217	Counter Table	1	
M37	QXR0531	Playback Rod Ass'y	1	
M38	QXR0533	Rewind Rod Ass'y	1	
M39	QXR0532	Fast Forward Rod Ass'y	1	
M40	QXR0530	Stop Rod Ass'y	1	
M41	QXR0534	Eject Rod Ass'y	1	
M42	QXD0054	Takeup Reel Table Ass'y	1	
M43	QBC1279	Spring, Back Tension	1	
M44	QDR1118	Supply Reel Table	1	
M45	XSN26+6	Screw, + 2.6x6	1	S
M46	QXL2904	Pause Lever	1	
M47	QML3440	Fast Forward Operation Lever	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
M48	QBN1477	Spring, Fast Forward Arm	1	
M49	QXG1023	Fast Forward Gear Arm Ass'y	1	
M50	QBP1664	Spring, Operation Rod	1	
M51	QMR1638	Lock Rod	1	
M52	QML2905	Switch Arm	1	
M53	QXK1667	Lower Base Plate Ass'y	1	
M54	QXK1668	Upper Base Plate Ass'y	1	
M55	QXL0980	Auto-Stop Drive Lever Ass'y	1	
M55-1	QBT1489	Spring, Auto-Stop Drive Lever	1	
M56	QML3496	Eject Arm	1	
M57	QBT1773	Spring, Eject Arm	1	
M58	MHT5ST2BX	Motor	1	
M59	QBG1539	Motor Cushion	3	
M60	QHQ1223	Screw, Motor M'tg	3	
M61	QXP0513	Motor Pulley Ass'y	1	
M62	QGO1564	Record Button	1	
M63	QMA2676	Belt Guide	1	
M64	QDB0219	Motor Belt	1	
M65	QBW2049	Washer	1	
M66	QXF0113	Flywheel	1	
M67	QXH0218	Flywheel Retainer	1	
M68	XTN3+16B	Screw, + 3x16	1	S
M69	QBP1778	Spring, Lock Rod	1	
M70	QML2945	Cue Lever	1	
M71	RUB205Z	Lever, Eject Rod	1	
M72	RDS3120A	Spring, Eject Rod	1	
M73	RHM32A	Spacer, Screw	2	
M74	XTN3+6B	Screw, + 3x6	2	S
M75	QXZ0069	Operation Rod Guide	1	
INTEGRATED CIRCUITS, TRANSISTORS AND DIODES				
IC1	AN7213	IC	1	
IC2	RVIUPC1018CE	IC	1	
IC3	RVIBA1330	IC	1	
IC301	AN6210	IC	1	
IC302	AN7146	IC	1	
IC303	LB1405	IC	1	
Q1,2	2SC829	Transistor (Si)	2	
Q101,201	2SC945	"	2	
Q301,302	303	"	3	
D1	2SC2001	"	1	
D2,101,201	RVDKB167	Diode (Si)	1	
D3,4	MA161	"	3	S
D5~8	20A90	Diode (Ge)	2	S
D301	OA90	"	4	S
D303	RVDKB262D	Diode (Si)	1	
D304~311	MA1075TA	"	1	
D312~317	LN230RA	LED, ST Eye, Meter	8	
D318	SML12	Diode (Si)	6	S Δ
	MA1110TA	"	1	
COILS AND TRANSFORMERS				
L2	RLF6W151	Antenna Coil, MW	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
L3	QLA3M8	Antenna Coil, SW	1	
L4	RLD4Y44	Tuning Coil, FM	1	
L5	RLO4Y43	Oscillator Coil, FM	1	
L7	RLO1M4	" LW	1	
L8	RLO2M14	" MW	1	
L9	RLO3M31	" SW	1	
L10	RLM1Z4	Trap Coil	1	
L11,12	QLM1M2	Trap Coil, 19kHz	2	
L101,201	QLQM1531	Trap Coil, Bias	2	
L301	QLB0174	Oscillator Coil, Bias	1	
T1	RLI4M101	IFT, FM 1st	1	S
T2	RLI4M511	IFT, FM 2nd	1	
T3	QLI2M102	IFT, AM 1st	1	
T4	RLI2M402	IFT, AM 2nd	1	S
T301	RLT5L97	Power Transformer	1	△
VARIABLE RESISTORS				
VR1	EVLS3AA00B14	Preset, 10kΩ (B)	1	S
VR101, 201	EVNM4AA00B15	" 100kΩ (B)	2	S
VR103, 203	EVAV28D15A54	Variable Resistor, 50kΩ (A)	2	
VR104, 204	EVBV29D15A54	" 50kΩ (A)	1	
VR301	EVNK4AA00B14	Preset, 10kΩ (B)	1	S
VR202	RVNAA24B1	" 20kΩ (B)	1	
VARIABLE CAPACITORS				
VC1~4, CT1,2,3,6	RCV4KC2V2K	Tuning Capacitor	1	
CT4	RCV1PX20AGS	Trimmer Capacitor	1	
CT5,7,8	RCV1PX10AGS	"	3	
CERAMIC FILTERS				
CF1,2	QVF107MA5W	Ceramic Filter, 10.7MHz	2	
CF3	QCRZZ455A7W	" 455kHz	1	
COMPONENT COMBINATIONS				
Z1	RXABPMB3	Component Combination	1	
Z2	EXA5DL01CF	"	1	
SPEAKERS				
	RAS3PH02Z	Speaker, 3cm (1-7/32"), 200Ω, Tweeter	2	
	EAS12P126SM	" 12cm (4-23/32"), 3Ω, Woofer	2	
SWITCHES				
S7	RSR4J02Z	Switch, Band	1	
S101	RSH2J01Z	" Record/Playback	1	
S102	RST2H01Z	" Function	1	
S103	RST3B13Z	" Meter	1	
S104	RSM3D00Z	" Tape Select	1	
S105	RSS3A06Z	" Beat Proof	1	
S106	QSB0186	" Motor	1	
S107	RST2B18Z	" Mode	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
S108	Refer to J10	Switch, AC/DC	(1)	
S109	RSR4A01W	" Voltage Selector	1	△
JACKS				
J3,4	RJJ1D2Z	Jack, EXT Mic	2	
J7,8	RJJ87Y	" EXT SP	2	
J9	RJJ1E2Z	" Headphone	1	
J10,11	QJS0329	" AC/DC IN	1	△
J12	RJS178Z	" DIN	1	
RESISTORS (Value is in OHMS)				
R6,13,15	29,31,38,58,59,60	ERD25TJ470	47	1/4W Carbon
R14	ERD25TJ680	68	"	"
R5,12,324	130,230	ERD25TJ221	220	"
R3,35,56	301,340	ERD25TJ331	330	"
R19,44	ERD25TJ391	390	"	"
R4,11,309	ERD25TJ471	470	"	"
R24,111,211	ERD25TJ681	680	"	"
R22,25,28,37,55,113,213,303,310	314,318,327	ERD25TJ102	1 K	"
R43,42,116,129,216,229	ERD25TJ332	3.3 K	"	"
R21,47,107,112,122,207,212,222,307,319,323	ERD25TJ472	4.7 K	"	"
R2,9,20,23,32,34,36,117,118,123,126,133	218,223,226,233,306	ERD25TJ103	10 K	"
R39,108,120,134,135,208,220,234	235,322	ERD25TJ153	15 K	"
R7	ERD25TJ273	27 K	"	"
R16,45,128,228	ERD25TJ473	47 K	"	"
R1,104,121,204,221,313	ERD25TJ104	100 K	"	"
R8,311	ERD25TJ224	220 K	"	"
R10,26,27	ERD25TJ474	470 K	"	"
R46	ERD25TJ820	82	"	"
R33,105,127,205,227	ERD25TJ101	100	"	"
R57	ERD25TJ152	1.5 K	"	"
R338	ERD25TJ820	82	"	"
R101,136	201,236	ERD25TJ100	10	"
R317	ERD25TJ220	22	"	"
R339	ERD25TJ270	27	"	"

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks	Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
K2-5	RJF1065Z	Terminal, EXT Ant	2		E29	RDF831Z	Shaft, Band Selector	1	
K2-6	RKX178Z	Arm, Handle	2		E30	XUC5FT	Circlip	1	S
K2-7	RKX179Z	Handle	1		E31	XSN3+12S	Screw, Heat Sink M'tg	2	S
K2-8	QBP1817	Stopper, Arm	2		E32	XWG3	Washer	2	S
K2-9	RKX184Z	Spacer, Arm	2		E33	XWT4	Washer	2	S
K2-10	XTB3+8CFN	Screw, Handle M'tg	2		E34	XSN4+6S	Screw, Transformer M'tg	2	S
K3	RYNX5120LSX7	Battery Cover Assembly	1		E35	XWA4B	Washer	2	S
K4	XEARR345CAN	Telescopic Antenna	1		E36	XTW3+12QR	Red Screw, PC Board M'tg	1	
K5	RBD94Y	Knob, Tape, Mode etc.	4		E37	XSN26+8S	Screw, Drum M'tg	1	S
K6	RBD113Z	Knob, Volume, Tone	3		E38	XWA26B	Washer	1	S
K7	RBN516Z	Knob, Tuning	1		E39	XSN3+8S	Screw, Mode Switch M'tg	2	S
K8	RBS153Z	Knob, Band	1		E40	XWA3B	Washer	2	S
K9	RUB200Z	Lever	1		E41	XWG3F13	Washer	1	S
K10	RUS124B	Spring, Lever	1		E42	XTB3+35C	Screw, Recording Lever M'tg	1	
K11	RJT651Z	Terminal, Telescopic Antenna	1		E43	XTV3+12GR	Red Screw, PC Board M'tg	19	
K12	RKE316Z	Stay Shaft	1		E44	RUB201Z	Recording Lever	1	
K13	XTV3+10G	Screw, Stay Shaft etc. M'tg	27		E45	XTV3+10G	Screw	1	
K14	XTV3+8G	Screw, Terminal M'tg	1				ACCESSORIES		
K15	XYN3+F15FZS	Screw, Telescopic Antenna M'tg	1			RJN23Z	Cassette Tape	1	
K16	XTN35D50G	Screw, Cabinet M'tg	6			RJA20Z	Power Cord, AC	1	△ S
ELECTRICAL PARTS							PACKING MATERIALS		
E1	QWY4113Z	Head, Record/Playback	1			XZB60X60A04	Polyethylene Cover	1	S
E2	QWY2129	Head, Erase	1			RPK869Z	Gift Box	1	
E3	RJM142Z	Built-in Microphone	2			RPN9319Z	Pad Complete	1	
E4	RHG416Z	Cover, Built-in Microphone	2				PRINTED MATERIAL		
E5	RZAX5120FX	Dial Chassis Ass'y	1			RQX6504Z	Instruction Book	1	
E5-1	RDR20-3	Roller, Dial	2						
E5-2	RDY43Z	Shaft, Dial Roller	2						
E5-3	RDT5151Z	Shaft, Tuning	1						
E5-4	XUC5FT	Circlip	1	S					
E6	RDD567Z	Drum, Dial	1						
E7	RDS4170A	Spring, Dial	1						
E8	RDZ05Z	Cord, Dial (200cm)	1						
			ROLI						
E9	RKE317X	Jack Board	1						
E10	RDP796Z	Pointer	1						
E11	RKD539X	Scale, Dial	1						
E12	RHM108Z	Nut, Headphone	1						
E13	RJS253Y	Socket, 3P	3						
E14	RJS216Y	Socket, 4P	3						
E15	RJS112Y	Socket, 6P	2						
E16	RJS264Y	Socket, 8P	1						
E17	RJP137Z	Plug, 3P	3						
E18	RJP107Z	Plug, 4P	3						
E19	RJP142Z	Plug, 6P	2						
E20	RJP171Z	Plug, 8P	1						
E21	RJT462Z	Contact	28						
E22	XBA2C20TRO	Fuse, T2A	1	△					
E23	RMC228A	Shield Plate	1						
E24	RMC171Y	Shield Plate, IC	1						
E25	RUV387Z	Cover, Voltage Selector	1	△					
E26	RMP128Z	Holding Plate, LED	1						
E27	QJC0018	Terminal, Mechanism Earth	1						
E28	QTW1135	Cover, AC IN Jack	1	△					

RX-5120LS DEUTSCH

TECHNISCHE DATEN

Stromversorgung:	Wechselstrom: 100~110/115~127/200~220/230~250 V, 50/60 Hz Leistungsaufnahme: 27 W Batterien: 12 V (acht Trockenbatterien UM-1, Größe D) Auto- oder Bootsbatterie: über eine Auto/Bootsadapter (RP-952: als Sonderzubehör erhältlich) anschließbar	REC/PB-Anschlußbuchse:	5 polige DIN-Buchse IN: Empfindlichkeit 0,32 mV (70±30 kΩ) OUT: Ausgangspegel 0,36 V (70±30 kΩ)
Ausgangsleistung: Frequenzbereich:	10 W (2×5 W) eff. (DC max.) 70~11,000 Hz (Normal Band) 70~13,000 Hz (CrO ₂ -Band) 70~13,000 Hz (FeCr-Band)	Lautsprecher:	Tieftonlautsprecher: dynamischer PM-Lautsprecher, φ12 cm (3Ω) Hochttonlautsprecher: dynamischer PM-Lautsprecher, φ3 cm (200Ω)
Aufnahmesystem:	Wechselstrom-Vormagnetisierung, Magnetlöschung	Wellenbereiche:	UKW: 87,5~108 MHz LW: 145~285 kHz (2060~1060 m) MW: 520~1610 kHz (577~186 m) KW: 5,9~18 MHz (50,8~16,7 m) FM: 10,7 MHz
Bandgeschwindigkeit: Gleichlaufschwankungen: Spieldauer: Spurlage:	4,8 cm/s 0,35% (RMS) 1 Stunde mit Cassette C-60 Stereoaufnahme und -wiedergabe auf 4 Spuren/2 Kanälen	Zwischenfrequenz:	FM: 10,7 MHz
Eingangsspannungen:	MIC: Empfindlichkeit 0,32 mV, Mikrofonimpedanz 200~600 Ω (empfohlenes Mikrofon; RP-8135) DC IN: 13,2 V EXT SP: 3~8 Ω	Empfindlichkeit:	UKW: 5 μV bei 50 mW Ausgangsleistung LW: 160 μV/m bei 50 mW Ausgangsleistung MW: 75 μV/m bei 50 mW Ausgangsleistung KW: 6 μV bei 50 mW Ausgangsleistung
Ausgangsimpedanzen:	HEADPHONE: 8 Ω	Abmessungen (B×H×T):	467×261×148 mm (18 1/8" × 10 1/4" × 5 1/2")
		Gewicht (ohne Batterien):	5,2 kg (11 lb. 7 oz.)

Änderungen vorbehalten.

ABGLEICH

VORGANGSWEISE BEIM ABGLEICH

BITTE DIESEN ABSCHNITT VOR DEM ABGLEICH SORGFALTIG DURCHLESEN

- Den Lautstärkereger in die Maximalposition stellen.
- Den Klangregler in die Mittelposition stellen.
- Den Wellenbereichsschalter auf MW, LW, KW oder FM stellen.
- Den "Tape/Radio"-Wahlschalter auf "radio" stellen.
- Eine Stromquelle von 12 V Gleichspannung anlegen.
- Der Signalgeneratorausgang sollte nicht größer sein, als für eine Ausgangsanzeige unbedingt notwendig ist.

LW-, MW- UND KW-ABGLEICH

WELLENBAND	SIGNALGENERATOR oder WOBELGENERATOR		STELLUNG DES ABSTIMMREGLERS	MESSGERÄT (ELEKTRONIK-VOLTMETER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN
	ANSCHLÜSSE	FREQUENZ				
AM-ZF-ABGLEICH						
(1) MW	Aus einem Draht einige Schleifen bilden und das Signal in die Empfängerschleife abstrahlen.	455 kHz, 30% mode. (Modulationsfrequenz 400 Hz)	Der Abstimmpunkt, wo keine Interferenz auftritt.	Ausgangsmessung parallel zur Lautsprecher-Schwingspule	T3 (1. AM-ZF-Abgleich) T4 (2. AM-ZF-Abgleich)	Die maximale Ausgangsleistung einstellen.
LW-HF-ABGLEICH						
(2) LW	"	145 kHz	145 kHz [11,2 mm (6 ¹⁷ / ₃₂ ")]	Ausgangsmessung parallel zur Lautsprecher-Schwingspule	L7 (LW-Oszillatortrimmer) (*1) L2 (LW-Antennenspule)	Die maximale Ausgangsleistung einstellen. L2 durch Verschieben am Ferritkern abgleichen.

(3) LW	"	285 kHz	285 kHz [166 mm (6 ¹⁷ / ₃₂ ")]	"	CT6 (LW-Oszillatortrimmer) CT4 (LW-Antennentrimmer)	Die maximale Ausgangsleistung einstellen. Die Schritte (2) und (3) wiederholen.
(*1) Nach beendetem Abgleich ist der Antennenspulenkörper mit Wachs zu befestigen.						
MW-HF-ABGLEICH						
(4) MW	Aus einem Draht einige Schleifen bilden und das Signal in die Empfängerschleife abstrahlen.	550 kHz	550 kHz [12,9 mm (1/2")]	Ausgangsmessung parallel zur Lautsprecher-Schwingspule	L8 (MW-Oszillatortrimmer) (*2) L2 (MW-Antennenspule)	Die maximale Ausgangsleistung einstellen. L2 durch Verschieben am Ferritkern abgleichen.
(5) MW	"	1500 kHz	1500 kHz [171,1 mm (6 ²³ / ₃₂ ")]	"	CT7 (MW-Oszillatortrimmer) CT3 (MW-Antennentrimmer)	Die maximale Ausgangsleistung einstellen. Die Schritte (4) und (5) wiederholen.
(*2) Nach beendetem Abgleich ist der Antennenspulenkörper mit Wachs zu befestigen.						
KW-HF-ABGLEICH						
(6) KW	"	6 MHz	6 MHz [8 mm (5/16")]	Ausgangsmessung parallel zur Lautsprecher-Schwingspule	L9 (KW-Oszillatortrimmer) L3 (KW-Antennenspule)	Die maximale Ausgangsleistung einstellen.
(7) KW	"	18 MHz	18 MHz [188 mm (7 ¹³ / ₃₂ ")]	"	CT8 (KW-Oszillatortrimmer) CT5 (KW-Antennentrimmer)	Die maximale Ausgangsleistung einstellen. Die Schritte (6) und (7) wiederholen.

FM-ABGLEICH

WELLENBAND	SIGNALGENERATOR oder WOBELGENERATOR		STELLUNG DES ABSTIMMREGLERS	MESSGERÄT (RÖHREN-VOLTMETER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN
	ANSCHLÜSSE	FREQUENZ				
FM-ZF-ABGLEICH						
(1) UKW	Über einen 0,001 μF-Kondensator an den Meßpunkt ▼ anschließen. Den negativen Ausgang erden.	10,7 MHz	Der Abstimmpunkt, wo keine Interferenz auftritt.	Die Vertikal-amplitude des Oszilloskops an den Meßpunkt ▼ anschließen. Den negativen Ausgang Meßpunkt ▼	T1 (FM-ZF-Abgleich) (Primärspule)	Die Maximalamplitude einstellen. (Siehe Abb. 12.)
(2) UKW	"	"	"	"	T2 (FM-ZF-Abgleich) (Sekundärspule)	Die Maximalamplitude einstellen. (Siehe Abb. 13.)
FM-HF-ABGLEICH						
(3) UKW	Über eine künstliche UKW-Antenne an den Meßpunkt ▼ anschließen. (Siehe Abb. 14.)	87,5 MHz	Drehkondensator ganz geschlossen.	Ausgangsmessung parallel zur Lautsprecher-Schwingspule	L5 (FM-Oszillatortrimmer)	(*3) Die maximale Ausgangsleistung einstellen.
(4) UKW	"	90 MHz	90 MHz [26,1 mm (1 ¹ / ₃₂ ")]	"	L4 (FM-Abstimmtrimmer)	(*3) Die maximale Ausgangsleistung einstellen.
(5) UKW	"	106 MHz	106 MHz [168 mm (6 ⁵ / ₈ ")]	"	CT2 (FM-Oszillatortrimmer) CT1 (FM-Abstimmtrimmer)	(*3) Die maximale Ausgangsleistung einstellen. Die Schritte (3) und (5) wiederholen.
(*3) Es gibt drei verschiedene Ausgangsfrequenzkurven. Stimmen Sie die Mittelfrequenz ab.						

(3)	LW	"	285 kHz	285 kHz [166 mm (6 ¹⁷ / ₃₂ ")]	"	CT6 (LW-Oszil- latorschalter) CT4 (LW-Anten- nentrimmer)	Die maximale Ausgangsleistung einstellen. Die Schritte (2) und (3) wiederholen.
(*1) Nach beendetem Abgleich ist der Antennenspulenkörper mit Wachs zu befestigen.							
MW-HF-ABGLEICH							
(4)	MW	Aus einem Draht einige Schleifen- indungen bilden und das Signal in die Empfängerschleife abstrahlen.	550 kHz	550 kHz [12,9 mm (1/2")]	Ausgangslei- stungsmesser parallel zur Lautsprecher- Schwingspule	L8 (MW-Oszil- latorschalter) L2 (MW-Anten- nenspule)	Die maximale Ausgangsleistung einstellen. L2 durch Verschieben am Ferritkern abgleichen.
(5)	MW	"	1500 kHz	1500 kHz [171,1 mm (6 ²³ / ₃₂ ")]	"	CT7 (MW-Oszil- latorschalter) CT3 (MW-Anten- nentrimmer)	Die maximale Ausgangsleistung einstellen. Die Schritte (4) und (5) wiederholen.
(*2) Nach beendetem Abgleich ist der Antennenspulenkörper mit Wachs zu befestigen.							
KW-HF-ABGLEICH							
(6)	KW	"	6 MHz	6 MHz [8 mm (5/16")]	Ausgangslei- stungsmesser parallel zur Lautsprecher- Schwingspule	L9 (KW-Oszil- latorschalter) L3 (KW-Anten- nenspule)	Die maximale Ausgangsleistung einstellen.
(7)	KW	"	18 MHz	18 MHz [188 mm (7 ¹³ / ₃₂ ")]	"	CT8 (KW-Oszil- latorschalter) CT5 (KW-Anten- nentrimmer)	Die maximale Ausgangsleistung einstellen. Die Schritte (6) und (7) wiederholen.

FM-ABGLEICH

WEL- LEN- BAND	SIGNALGENERATOR oder WOBBELGENERATOR		STELLUNG DES ABSTIMM- REGLERS	MESSGERÄT (RÖHREN- VOLTMESSER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN	
	ANSCHLÜSSE	FREQUENZ					
FM-ZF-ABGLEICH							
(1)	UKW	Über einen 0,001µF- Kondensator an den Meßpunkt ▼ anschießen. Den negativen Ausgang erden.	10,7 MHz	Der Abstimm- punkt, wo keine Interferenz auftritt.	Die Vertikal- amplitude des Oszilloskops an den Meßpunkt ▼ anschließen. Den negativen Ausgang Meßpunkt ▼	T1 (FM- ZF-Abgleich) (Primärschalter)	Die Maximalamplitude einstellen. (Siehe Abb. 12.)
(2)	UKW	"	"	"	"	T2 (FM- ZF-Abgleich) (Sekundärschalter)	Die Maximalamplitude einstellen (Siehe Abb. 13.)
FM-HF-ABGLEICH							
(3)	UKW	Über eine künstliche UKW-Antenne an den Meßpunkt ▼ anschießen. (Siehe Abb. 14.)	87,5 MHz	Drehkondensator ganz geschlossen.	Ausgangsleistungs- messer parallel zur Lautsprecher- Schwingspule	L5 (FM- Oszillatorschalter)	(*3) Die maximale Ausgangsleistung einstellen.
(4)	UKW	"	90 MHz	90 MHz [26,1 mm (1 ¹ / ₃₂ ")]	"	L4 (FM- Abstimm- schalter)	(*3) Die maximale Ausgangsleistung einstellen.
(5)	UKW	"	106 MHz	106 MHz [168 mm (6 ³ / ₈ ")]	"	CT2 (FM- Oszillatorschalter) CT1 (FM- Abstimm- schalter)	(*3) Die maximale Ausgangsleistung einstellen. Die Schritte (3) und (5) wiederholen.
(*3) Es gibt drei verschiedene Ausgangsfrequenzkurven. Stimmen Sie die Mittelfrequenz ab.							

ABGLEICH DER LEUCHTDIODEN-ANZEIGE

PRÜFUNG	EINSTELLUNG	BEMERKUNGEN
Batterieprüfung	VR301	1) Über die Gleichstrom-Eingangsbuchse DC In eine Gleichspannung von 8,5V Zuführen. 2) Spannungskonstanthalter (VR301) so einstellen; daß die sechste Leuchtdiode von links aufzuleuchten beginnt.

KANALTRENNUNGS-ABGLEICH

PRÜFUNG	SIGNAL 90MHz, 60dB, SOURCE- ANSCHLUSS	GERÄTEANSCH- LUSS (ELEKTRON- ISCHER ZÄHLER)	EINSTELLUNG	ANGABEN	BEMERKUNGEN
Einstellung des Pilottons	—	▼...(+)-seite ▼...(-)-seite	VR1	19kHz	Mit dem elektronischen Zähler den Spannungskonstanthalter (VR1) auf 19kHz (±200Hz) einstellen.

NF-ABGLEICH

EINSTELLUNG	EINGANG	MESSPUNKT	MESSWERT	EINSTELL- PUNKT	BEMERKUNGEN
Vormagnetisie- rungsstrom	—	▼101 (linker Kanal) ▼102 (rechter Kanal) ▼E (Masse)	4,1±0,2mV (für CrO ₂ -Band)	VR101 (linker Kanal) VR201 (rechter Kanal)	bei Aufnahme Oszillator → I
Oszillations- frequenz für Vormagnetisie- rung	—	▼101 ▼E	52kHz±1kHz (für CrO ₂ -Band)	L301	bei Aufnahme Oszillator → I
Wieder- gabepegel	QZZCFM (315Hz, 0dB)	DIN-Buchse	—	VR202 (rechter Kanal)	bei-Wiedergabe

BEZEICHNUNGEN IN DER SCHEMATISCHEN DARSTELLUNG

- S7-1~S7-10Wellenbereichsschalter auf "UKW".
(1...UKW, 2...LW, 3...MW, 4...KW).
- S101-1~S101-9...Aufnahme/Wiedergabeschalter auf
"Wiedergabe".
(1...Wiedergabe, 2...Aufnahme).
- S102-1~S102-6...Funktionschalter auf "Cassette".
(1...Cassette, 2...Radio).
- S103.....Anzeigenwähler auf "AUS".
(1...AUS, 2...Batterie, 3...Ausgangsleistung).
- S104-1~S104-3...Bandsortenswähler auf "Normal".
(1...Normal, 2...FeCr, 3...CrO₂).
- S105.....Oszillator-Schalter auf.
(1...I, 2...II).
- S106-1~S106-2...EIN/AUS-Schalter des Motors auf "AUS".
- S107.....Betriebsart-Schalter (Abgebildet
in der Stellung "Stereo").
(1...Stereo, 2...Mono).
- S108.....Wahlschalter für Gleichstrom-oder
Wechselstrombetrieb auf "Gleichstrom".
- S109.....Spannungswähler.
- S110-1~S110-3...Eingangswähler (abgebildet in der Stellung
"MIC-Eingang").
(1...MIC-Eingang, 2...DIN-Eingang).
- Für die Bauelemente, die mit Δ bezeichnet sind, sollen aus
Gründen der Betriebssicherheit nur die Originalbauteile des
Herstellers verwendet werden.
- Alle Gleichspannungen sind mit einem Elektronen-voltmeter vom
negativen Batterieanschluß aus zu messen.
□...Stellung "FM", ()...Stellung "AM".
- Batteriestrom: ohne Signal120mA
bei maximaler Ausgangsleistung (Radio)1.1 A
bei maximaler Ausgangsleistung (Cassette) ...1.04 A
- VR1Einstellung der Spannungsgesteuerten
Oszillatorfrequenz.
VR101, 201RW zur Einstellung des Vormagnetisierungs-
stroms.
VR202RW zur Einstellung der wiedergabeverstärkung.
VR103, 203Lautstärkereglern.
VR104, 204Klangregler.
VR301Leuchtdioden-Pegelregler.
- Die Markierung (▼) bezeichnet einen Meßpunkt, z.B:
▼= Meßpunkt 1.

RX-5120LS FRANCAIS

■ SPECIFICATIONS

Généralités:	c.a. 100 à 110/115 à 127/200 à 220/230 à 250V 50/60Hz	Sortie:	EXT SP; 3 à 8Ω HEADPHONE; 8Ω
Consommation:	27W	Branchement REC/PB:	fiche DIN à 5 broches
Piles:	12V (huit piles sèches UM-1, dimension D)	Haut-parleur:	IN; sensibilité 0.32mV (70±30kΩ) OUT; sortie 0.36V (70±30kΩ)
Puissance de sortie:	10W (5W×2)...(DC max.)	Haut-parleur des graves:	12cm haut-parleur dynamique à aimant permanent (3Ω)
Gamme de fréquence:	70 à 11,000Hz (avec bande normale) 70 à 13,000Hz (avec bande CrO ₂) 70 à 13,000Hz (avec bande FeCr)	Haut-parleur des aigus:	3cm haut-parleur dynamique à aimant permanent (200Ω)
Système d'enregistrement:	plurisation c.a., effacement magnétique	Fréquence radio:	FM; 87.5 à 108MHz GO; 145 à 285kHz (2060 à 1060m) PO; 520 à 1610kHz (577 à 186m) OC; 5.9 à 18MHz (50.8 à 16.7m)
Vitesse de bande:	4,8cm/sec.	Fréquence intermédiaire:	FM; 10.7MHz AM; 455kHz
Pleurage et scintillement:	0,35% (RMS)	Sensibilité:	FM; 5μV pour une sortie de 50mW GO; 160μV/m pour une sortie de 50mW PO; 75μV/m pour une sortie de 50mW OC; 6μV pour une sortie de 50mW
Durée de lecture:	1 heure avec cassette C-60	Dimensions (l×h×Pr)mm:	467×261×148 (18 ³ / ₈ "×10 ¹ / ₂ "×5 ¹ / ₂ "
Pistes:	enregistrement et lecture stéréo 4 pistes, 2 canaux	Poids kg:	5.2 sans piles
Entrée:	MIC; sensibilité 0.32mV; impédance applicable pour microphone 200~600Ω (microphone recommandé RP-8135) DC IN; 13,2V		

Les spécifications sont sujettes à des changements sans préavis.

ALIGNEMENTS

■ REGLAGE

AVANT DE PROCEDER AUX ALIGNEMENTS LIRE ATTENTIVEMENT CE QUI SUIV

1. Le potentiomètre de volume au maximum.
2. Les commandes de tonalité et aigus au centre.
3. Le sélecteur de bande sur MW (PO), LW (GO), SW (OC), ou FM.
4. Le sélecteur bande/radio sur "radio".
5. Régler la tension sur 12 V c.c.
6. Régler la sortie du générateur étaloné de façon à ne pas surcharger les circuits.

ALIGNEMENT GO, PO et OC

BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE ELECTRONIQUES)	REGLAGE	OBSERVATIONS
	BRANCHEMENTS	FREQUENCE				
ALIGNEMENT FI sur AM						
(1) PO	Via une bobine de fil couplée à l'antenne.	455 kHz (modulation de 30% à 400 Hz)	Point de non-interférence	Voltmètre branché à la bobine oscillatrice	T3 (AM 1 ^{er} IFT) T4 (AM 2 ^e IFT)	Régler pour une sortie maximum.
ALIGNEMENT HF sur GO						
(2) GO	"	145 kHz [11,2 mm (⁴⁵ / ₃₂ ")]	"	Voltmètre branché à la bobine oscillatrice	L7 (bobine d'oscillateur GO) (*1) L2 (bobine d'antenne GO)	Régler pour une sortie maximum en glissant la bobine L2 le long du noyau en ferrite.

(3) GO	"	285 kHz [166 mm (^{6¹⁷} / ₃₂ ")]	"	CT6 (trimmer d'oscillateur GO) CT4 (trimmer d'antenne GO)	Régler pour une sortie maximum. Refaire les étapes (2) et (3).	
(*1) Sceller la bobine d'antenne à la cire après avoir achevé l'alignement.						
ALIGNEMENT HF sur PO						
BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE ELECTRONIQUES)	REGLAGE	OBSERVATIONS
	BRANCHEMENTS	FREQUENCE				
(4) PO	"	550 kHz [12,9 mm (¹ / ₂ ")]	550 kHz	Voltmètre branché à la bobine oscillatrice	L8 (bobine d'oscillateur PO) (*2) L2 (bobine d'antenne PO)	Régler pour une sortie maximum en glissant la bobine L2 le long du noyau en ferrite.
(5) PO	"	1500 kHz [171,1 mm (^{6²³} / ₃₂ ")]	1500 kHz	"	CT7 (trimmer d'oscillateur PO) CT3 (trimmer d'antenne PO)	Régler pour une sortie maximum. Refaire les étapes (4) et (5).
(*2) Sceller la bobine d'antenne à la cire après avoir achevé l'alignement.						
ALIGNEMENT HF sur OC						
(6) OC	"	6 MHz [8 mm (⁹ / ₁₆ ")]	6 MHz	Voltmètre branché à la bobine oscillatrice	L9 (bobine d'oscillateur OC) L3 (bobine d'antenne OC)	Régler pour une sortie maximum.
(7) OC	"	18 MHz [188 mm (^{7¹³} / ₃₂ ")]	18 MHz	"	CT8 (trimmer d'oscillateur OC) CT5 (trimmer d'antenne OC)	Régler pour une sortie maximum. Refaire les étapes (6) et (7).

■ ALIGNEMENT FM

BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE)	REGLAGE	OBSERVATIONS
	BRANCHEMENTS	FREQUENCE				
ALIGNEMENT HF sur FM						
(1) FM	Brancher au ▼ via 0,001μF. Côté négatif à la terre.	10,7 MHz	Point de non-interférence	Brancher la sonde vert. de l'oscilloscope au ▼. Côté négatif à la au ▼.	T1 (FM IFT) (Primaire)	Régler pour une amplitude maximum. (Voir fig. 12.)
(2) FM	"	"	"	"	T2 (FM IFT) (Secondaire)	Régler pour une amplitude maximum (Voir fig. 13.)
ALIGNEMENT HF sur FM						
(3) FM	Brancher au ▼ via une antenne fictive FM. (Voir fig. 14.)	87,5 MHz	Condensateur variable totalement fermé.	Voltmètre branché à la bobine oscillatrice	L5 (bobine d'oscillateur FM)	(*3) Régler pour une sortie maximum
(4) FM	"	90 MHz [26,1 mm (^{1¹} / ₃₂ ")]	90 MHz	"	L4 (bobine TUNE FM)	(*3) Régler pour une sortie maximum
(5) FM	"	106 MHz [168 mm (^{6⁵} / ₈ ")]	106 MHz	"	CT2 (trimmer d'oscillateur FM) CT1 (trimmer TUNE FM)	(*3) Régler pour une sortie maximum Refaire les étapes (3) et (5).
(*3) Il y aura trois réponses de sortie; la syntonisation adéquate est la fréquence du milieu.						

■ ALIGNEMENT

ELEM
Contrôle c

■ ALIGNEMENT

ELEMEN
Reglage du signal pilote.

■ ALIGNEMENT

ELEMEN
Courant de polarisation
Fréquence d'oscillation polarisation
Niveau de lecture

SYMB

1. S7-1 à S7-10
2. S101-1 à S1
3. S102-1 à S1
4. S103
5. S104-1 à S1
6. S105
7. S106-1 à S1
8. S107

(3)	GO	"	285 kHz	285 kHz [166 mm (6 ¹⁷ / ₃₂ ")]	"	CT6 (trimmer d'oscillateur GO) CT4 (trimmer d'antenne GO)	Régler pour une sortie maximum. Refaire les étapes (2) et (3).
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(*1) Sceller la bobine d'antenne à la cire après avoir achevé l'alignement.

ALIGNEMENT HF sur PO

	BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE ELECTRONIQUES)	REGLAGE	OBSERVATIONS
		BRANCHEMENTS	FREQUENCE				
(4)	PO	"	550 kHz	550 kHz [12,9 mm (1/2")]	Voltmètre branché à la bobine oscillatrice	L8 (bobine d'oscillateur PO) (*2) L2 (bobine d'antenne PO)	Régler pour une sortie maximum en glissant la bobine L2 le long du noyau en ferrite.
(5)	PO	"	1500 kHz	1500 kHz [171,1 mm (6 ²³ / ₃₂ ")]	"	CT7 (trimmer d'oscillateur PO) CT3 (trimmer d'antenne PO)	Régler pour une sortie maximum. Refaire les étapes (4) et (5).

(*2) Sceller la bobine d'antenne à la cire après avoir achevé l'alignement.

ALIGNEMENT HF sur OC

(6)	OC	"	6 MHz	6 MHz [8 mm (5/16")]	Voltmètre branché à la bobine oscillatrice	L9 (bobine d'oscillateur OC) L3 (bobine d'antenne OC)	Régler pour une sortie maximum.
(7)	OC	"	18 MHz	18 MHz [188 mm (7 ¹³ / ₃₂ ")]	"	CT8 (trimmer d'oscillateur OC) CT5 (trimmer d'antenne OC)	Régler pour une sortie maximum. Refaire les étapes (6) et (7).

ALIGNEMENT FM

	BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE)	REGLAGE	OBSERVATIONS
		BRANCHEMENTS	FREQUENCE				
ALIGNEMENT HF sur FM							
(1)	FM	Brancher au ▼ via 0,001µF. Côté négatif à la terre.	10,7 MHz	Point de non-interférence	Brancher la sonde vert. de l'oscilloscope au ▼. Côté négatif à la au ▼.	T1 (FM IFT) (Primaire)	Régler pour une amplitude maximum. (Voir fig. 12.)
(2)	FM	"	"	"	"	T2 (FM IFT) (Secondaire)	Régler pour une amplitude maximum (Voir fig. 13.)
ALIGNEMENT HF sur FM							
(3)	FM	Brancher au ▼ via une antenne fictive FM. (Voir fig. 14.)	87,5 MHz	Condensateur variable totalement fermé.	Voltmètre branché à la bobine oscillatrice	L5 (bobine d'oscillateur FM)	(*3) Régler pour une sortie maximum
(4)	FM	"	90 MHz	90 MHz [26,1 mm (1 ¹ / ₃₂ ")]	"	L4 (bobine TUNE FM)	(*3) Régler pour une sortie maximum
(5)	FM	"	106 MHz	106 MHz [168 mm (6 ⁵ / ₁₆ ")]	"	CT2 (trimmer d'oscillateur FM) CT1 (trimmer TUNE FM)	(*3) Régler pour une sortie maximum Refaire les étapes (3) et (5).

(*3) Il y aura trois réponses de sortie; la syntonisation adéquate est la fréquence du milieu.

ALIGNEMENTS DES VU-METERS A DEL

ELEMENT	REGLAGE	REMARQUES
Contrôle des piles	VR301	1) Alimenter par un courant continu de 8.5V au niveau du Jack DC IN. 2) Régler le VR301 de façon à ce que la 5 ^e DEL à partir de la gauche commence à s'allumer.

ALIGNEMENT DE LA DIAPHONIE

ELEMENT	SIGNAL 90 MHz, 60dB BRANCHEMENT SUR LA SOURCE	BRANCHEMENT A L'EQUIPMENT (COMPTEUR ELECTRONIQUE)	REGLAGE	SPECIFICATION	REMARQUES
Reglage du signal pilote.	—	▼...côté (+) ▼...côté (-)	VR1	19kHz	Régler VR1 pour 19kHz (±150Hz) en effectuant la lecture sur le compteur électronique.

ALIGNEMENTS AUDIO

ELEMENT	ENTREE	POINT DE MESURE	SPECIFICATION	POINT DE REGLAGE	OBSERVATIONS
Courant de polarisation	—	▼101 (canal gauche) ▼102 (canal droit) ▼E (terre)	4.1±0.2mV (utiliser la bande CrO ₂)	VR101 (canal gauche) VR201 (canal droit)	Mode d'enregistrement anti → I
Fréquence d'oscillation de polarisation	—	▼101 ▼E	52kHz±1kHz (Utiliser al bande CrO ₂)	L301	Mode d'enregistrement anti → I
Niveau de lecture	QZZCFM (315Hz, 0dB)	Prise DIN	—	VR202 (canal droit)	Mode de lecteur stéréo

SYMBOLES UTILISES DANS LE SCHEMA

- S7-1 à S7-10 Sélecteur de gamme d'onde en position "FM". (1...FM, 2...GO, 3...PO, 4...OC).
- S101-1 à S101-9... Commutateur enregistrement/lecture en position "lecture". (1...lecture, 2...enregistrement).
- S102-1 à S102-6... Commutateur de fonction en Position "Bande". (1...Bande, 2...Radio).
- S103 Commutateur de l'indicateur en position "Arrêt". (1...Arrêt, 2...Syntonisation, 3...Niveau).
- S104-1 à S104-3... Sélecteur de bande en position "Normal". (1...Normal, 2...FeCr, 3...CrO₂).
- S105 Commutateur de anti-interférences en Position "I". (1...I, 2...II).
- S106-1 à S106-2... Commutateur marche/arrêt du moteur en position "arrêt".
- S107 Commutateur de mode (Montré en position Stéréo). (1...Stéréo, 2...Mono).
- S108 Sélecteur c.a./c.c. en position "c.c."
- S109 Sélecteur de tension.
- S110-1 à S110-3... Sélecteur d'entrée.. (1...MIC, 2...DIN)
- Les éléments précédés du symbole Δ ne doivent être remplacés que par des pièces d'origine par mesure de sécurité.
- La tension c.c. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile. □...position FM, ()...position AM
- Courant des piles, pas de signal..... 120mA sortie maximum (Radio) 1.1A (Bande) 1.04A
- VR1 Réglage de fréquence de l'oscillateur VCO.
VR101, 201 Commande de réglage du courant de polarisation.
VR202 Commande de réglage du courant de lecture.
VR103, 203 Potentiomètre de volume.
VR104, 204 Commande de tonalité.
VR301 Contrôle de niveau à DEL.
- La marque (▼) signale un point de vérification.
Ex.: ▼= point de vérification 1.